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*Journal of a trip through Kunawur, Hungrung, and Spiti, undertaken in the year 1838, under the patronage of the Asiatic Society of Bengal, for the purpose of determining the geological formation of those districts.—By THOMAS HUTTON, Lieut., 37th Regt. N. I., Assistant Surveyor to the Agra Division.*

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### PART III.

On the 3rd July I retraced my steps to Hungo, and found a very different aspect to that I had witnessed in the beginning of June; then the snow was lying deep on all the surrounding hills, and within a few yards of the village itself. The yellow flowering furze was the only plant that seemed hardy enough to face the chilling waste of snows that spread around. Now, the wintery sheet had melted all away, except towards the summits of the mountains, the furze had lost its golden flowers—and in their place were others of various kinds scattered through the fields or on the mountain's side. The loud sharp whistle of the bhair was hushed, and had given place to the shrill chirp of the cricket and the grasshopper. A tinge of green was seen to pervade each mountain side, and the cultivation round every village was of the brightest and richest hue. In short, the glad smile of summer shone around at every step, and the chill white garment of the winter was fast receding to its farthest limits. How marked a contrast, was produced in one short month! Had I returned by any other route, I should undoubtedly have been tempted to describe these hills as bare

and unproductive of ought, save furze. How cautious therefore should the traveller be, lest noting down too hastily his first impressions, he be lead to pronounce that country barren, which at another and more favourable season, he would find rich in plants and cultivation. Such indeed, I am told, has been the case at this very mountain of Hungrung; M. Jacquemont, who crossed it in summer, when all was "blythe and gay," having passed some severe critical remarks on Messrs. Herbert and P. Gerard, who crossing it some years previously in autumn, when all the beauty of the scene was over, had pronounced it wanting in botanical treasures. Both parties were somewhat hasty, the one seeming to think the district always rich in flowers, and the other, that it never was so; neither seem to have taken into consideration the effects to be expected from change of seasons, and truly when I first crossed the Pass in June, I was inclined to adopt an equally hasty conclusion; for the very look of the place, so still and lonely, so bare and sad, seemed to strike a chill upon me, and to depress my spirits, so that on my return, the beauty that every where met the eye appeared to have been conjured up by magic, or like the sudden and well managed shifting of a winter scene, to one of smiling summer.

From Hungo we ascended to the Hungrung Pass, which is the boundary between Kunawur and the Tartars of "*Hungrung within*." In place of the cold sheet of snows that was every where spread around when I last travelled over this ground, the *Chinese furze*, the wild shalot, yellow potentilla, rhubarb, and several other plants now enriched the scene, and the delicate flowers of "*Saxifraga ciliata*," were abundant.

On recrossing the Hungrung Pass, I once more entered Kunawur, and bid a long adieu to Tartary and Tartars.

I am far from thinking, with the late Dr. Gerard, that "the Tartars are the finest fellows I ever met with,"—nor can I give them the preference over the Kunawurrees. That they are frank and free enough in their manner, I allow; but I often found them too much so, and so troublesomely curious and inquisitive were they, that it was sometimes only by threatening them with the stick, that I could keep my tent free from them. As to their honesty, it appeared to me very like the honour which is said to exist among thieves;



they are true and honest among themselves, *because* they find it mutually their interest to be so, in a country where each is necessarily more or less dependent on his neighbour for assistance;—but in their dealings with a stranger, they do not hesitate to lie and cheat as much as any of the people of the plains of India.

Of this I had several good proofs while among them, one instance of which was practised at Dunkur. Being sadly in want of provisions for my people, I had, with much difficulty, at length prevailed upon the killadar of the fort to sell me ten rupees worth of wheaten flour. The money was paid in advance, and it was agreed that I should march to Leedung, and leave behind me three or four of my people to receive and bring it on the next morning. Accordingly I proceeded to the fossil site, and halting there one day, we consumed all the provisions we had with us. Instead of furnishing the flour by noon on the stipulated day, it was not produced and delivered over to my people until late in the dusk of the evening, when it was too dark to see its quality, which was of course exactly the aim of the seller; for on its arrival in my camp the next day, it proved to be instead of wheat, for which I had paid a higher price than it was selling for among themselves, coarse barley meal, of the worst description, and which even the coolies refused to eat. Luckily we purchased enough at Leedung for the day's consumption. This was so evident an endeavour to take me in, and pocket the difference in price, by giving me bad barley instead of good wheat, that I instantly returned it, and demanded the strict fulfilment of the agreement, under pain of helping myself. My demand was acceded to immediately, as even then I only got seven seers for the rupee, while among themselves it was selling from ten to twelve seers.

Another instance of their roguery which annoyed me excessively, occurred during the short march from Nabo to Leeo. I had purchased an enormous pair of horns with the skull of a shawl goat, and had placed them on a kiltah, or basket, containing specimens of rocks and minerals. On arriving at Leeo the horns had disappeared, and all inquiry to discover the thief was fruitless: they now no doubt grace some pile dedicated to their favourite Devi. This theft however, was the least of the evil, for the rascally Tartar, thinking his load too heavy,

had thrown away a number of valuable rock specimens also. So much for *Tartar morals*.

If coolies are required from a village in Spiti, no man will move without first receiving his four annas, and it is then by no means improbable, that he will set down his load about half way, and leave you in the lurch, or he will leave part of it behind, and carry on the rest, telling you very coolly that it is too heavy, although perhaps the whole does not amount to twenty seers.

Sometimes again, no man will stir even if you offer him double pay and a light load, for fear the Mookiah of the village, who happens to be absent, should feel displeased at his giving you assistance, and in this case the load must be left behind until you can send back a man for it from the next stage. If asked whether they will sell you a sheep or goat, flour or birmore (woollen stuff,) they invariably tell you there is no such thing to be had in the village, either because the season has been bad and the crops have failed, or because somebody has robbed them ; while at the same time they have plenty of every one of the articles demanded ; but their fears that the traveller will take what he fancies, without giving them payment for the same, at once prompts them to tell a lie as the safest mode of escape. When once assured of payment, however, they bring their goods forward, although at a most exorbitant price, thinking, no doubt, that as a paying customer is seldom met with, the best way is to make the most of him when he does appear.

It is very true that all this may originate from the mode in which they are treated by their governors, and that if they were more happily circumstanced they would behave otherwise ; but with the causes of their behaviour, I have nothing to do, and I therefore speak of the 'Tartar as I found him.

These remarks however are much more applicable to the Tartars of Spiti than to those of Bussaher, or as they term themselves by way of distinction, both from the Tartars of other districts and from the Kunawurrees, "Tartars of Hungrung within."

The Tartars of Hungrung are subject to Bussaher ; those of Spiti to Lādāk ; and the Chinese Tartars to China ; these although essentially the same people, have nevertheless their peculiarities and distinctions both in dress, and language.

The dress of the Tartars consists in general of a strong and thick birmore, which is manufactured by themselves from the wool of the Thibetan sheep. The coat or body dress fits somewhat tightly over the breast and shoulders, and has long sleeves ; it descends as far as the knees, but is not plaited like the dress of Kunawur ; they wear also large loose trowsers with the ends tucked up, and tied at the knee, causing them to fall in large bags nearly to the ankle. The foot is encased in a strong, and clumsily made shoe of leather, to which is attached a woollen stocking reaching to the knee, where it is confined by a garter beneath the trowsers.

This stocking is generally of two colours, the lower half being red or yellow, and the upper half blue. This is the dress of a decently clad person, but in general they are seen clothed in rags and tatters of the filthiest kind, their stockings patched with yellow, red, blue, and every colour of the rainbow, yet bearing no more resemblance to *Tartars*—to which the fanciful imagination of a former traveller has likened them—than do the patched, and parti-coloured rags of an English beggar, to the neatly arranged colours of a Highland plaid.

To the above dress is often added a red linen sash, in which is stuck a knife, and a steel tobacco pipe, called a “gungsah” ; it is sometimes inlaid with silver, and rudely worked, and is manufactured in Spiti from the iron which is imported from the lower hills. The bowl for the tobacco, and the *tout en semble* have very much the form of an English tobacco pipe. The Chinese Tartars have them made of brass, and neatly ornamented ; a small leathern purse in which is kept the tobacco in a dried state, and a steel, or chuckmuch for striking a light, are also suspended from the waist by a string, or sometimes a brass chain.

Round the neck is worn a necklace of pieces of amber and coloured stones, and many of the devout have also a long string of wooden beads, which are counted over as they hum an invocation to their deity.

In the form of head dress there is some difference ; that of Hungrung being usually a close fitting cap, with a flap to protect the ears and nape of the neck, and which in the summer is turned up. The Tartars of Spiti wear the same, as also a kind of bag-shaped cap, the upper part of which flaps over one side of the face ; this last is also worn in Ludak.

The Chinese Tartars again are usually bare headed, with the hair in front cut close, or gathered back into a long plaited tail, which falls down behind.

The women are certainly, without exception, the ugliest I ever beheld, and usually vie with the men in filthiness of dress and person. They are fond of red garments, which consist of a woollen petticoat reaching to a little below the knee, with trowsers and boots similar to those of the men; a blanket is also usually thrown across the shoulders, and fastened in front upon the breast with a large steel needle or piece of string.

In Kunawur a kind of brooch made of brass, and called "pecchook," is used instead of the needle, and looks better.

Some wear a cap like the men, but generally the hair is thrown off the forehead, plaited into numerous long tails, and hangs down the back, where it is kept from flying about in the wind by a girdle, which confines it to the waist; this is sometimes of leather, and is studded over with pieces of amber and coloured stones; another similar strap of leather is also worn on the head, hanging from the forehead over the crown and down the back, this too is studded like the former with stones or glass of different colours, and is used both as an ornament and as a means of keeping down the back hair by its weight.

When kept neat and clean, as some of them are, this style of head dress has a very pleasing effect.

Both men and women have very low, flat foreheads, small eyes, broad flat faces, and high cheek bones, which together with a cloak of goat's skins worn by the women with the hair inwards, gives to their square short figures very much the appearance of the pictures we see of the Esquimaux.

To the Tartars of Hungrung and Spiti, feelings of modesty appear to be totally unknown, or if known, they are disregarded. Men and women too, may sometimes be seen unblushingly bathing together in the same stream, in a state of nakedness.

The Tartars of Spiti are stout made, athletic looking fellows, but they are poor spiritless cowards, forming in this respect, if report speaks truth, a marked contrast to the tribes of Chinese Tartary, who are represented as a bold and fearless people, though of a mild and gentle disposition.



When the Rajah of Ludak was lately expelled by the troops of Runjeet Singh, and forced to seek shelter in Spiti, the Tartars assembled to the number of 400 men, and posted themselves at a gorge, in order to check the advance of the Seiks, who were reported to have entered the district. The position they had chosen was one where a handful of resolute men might have held an army at bay, and they valiantly looked forward to the defeat of their enemies.

When the foremost of the Seiks appeared, a single matchlock was discharged, doubtless with the intent to strike a panic into the advancing foe, but it had unfortunately quite a contrary and unforeseen effect, for no sooner was the report heard, than, without stopping to witness the result of the shot, off scampered the Tartars, as hard as they could scramble over the hills, and the enemy, who amounted after all to no more than *six* men, marched through the district and compelled the Rajah, (who fled on hearing of the result of the *battle*,) to seek protection in Bussaher.

When I asked the Tartars how they could be such cowards as to run from six men, they replied that they did not know at the time that their enemies were so *few in number*, or they would have fought them!!

Throughout the districts of Hungrung and Spiti, as also in the upper parts of Kunawur, where the Bhuddist religion prevails, oblong piles of stones are constantly met with by the road side, and the custom is always to pass, so as to leave them on the right hand; in the observance of this the Tartars are very scrupulous. On these piles are numerous slabs of various sizes, with inscriptions engraven in the characters of Thibet by the Lamas, who appear to be the only people who can read them. These inscriptions "hieroglyphics," as Dr. Gerard has termed them, are usually the sentence "*Oom manee paimee hoong*," repeated two or three times on the same slab; others bear longer sentences from their sacred books, and all are analogous to the tombstones of our own country. When a person dies the body is burned to ashes, and intimation being given to the Lamas or priests, a stone is prepared and engraven with some sacred sentence, and when ready to be deposited on the pile of stones, or "manee" as it is termed, the friends and relations of the deceased person assemble, and repairing to the spot, walk several times round the manee,

repeating the sentence "*Oom manee paimée hoong*," as fast as they can, in a sing-song voice. After this the Lama deposits the stone, and the party retires.

The slabs placed on these piles are sometimes very creditably carved; at others quite the reverse, being mere thin slabs of slate, with the letters scratched on the surface.

The word "*manee*" is also applied to a small brass barrel-shaped instrument, about two or three inches long, which is made to revolve round an axis, one end of which is held in the hand; the oftener this is made to revolve during the day, the greater chance the person has of going to heaven. It is laid aside while the possessor is employed in laborious work, or any occupation requiring the assistance of both hands, but the instant that task is accomplished, the whirling of the *manee* is resumed. In it are enclosed a few scraps of paper, inscribed by the Lamas with some sacred sentences.

The district of Spiti is said to contain about forty villages, and four hundred families; so that if we allow six and a half persons as an average to each family, which will certainly be the utmost, it will furnish a population of about two thousand six hundred souls. In point of scenery and general appearance, the features of the country throughout are far different, and less attractive than the hills of Kunawur.

Through the latter country we see the mountains towering aloft in ragged and shattered pinnacles, bearing full witness to the mighty and irresistible nature of the agency which has torn their firm strata asunder, and hurled them aloft in spires of various forms. Such are the usual characters of primary formations in every country.

The sides of the mountains are there clothed often to their very crests with forests of oak and pines, cheering the traveller, and robbing the gigantic and snow-clad mountains of their terrors. Villages and cultivation are met with at no great distance from each other; and all bespeaks the presence of industry and plenty.

Throughout the Tartar districts of Hungrung and Spiti, all wears a different aspect,—a dull and melancholy air of desolate sadness, seems to pervade the scene;—the mountains, less bold and rugged, have a blackened and charred appearance, caused by the de-

composing strata of clay-slates and shales in which they abound. These hills are of the secondary formation, and their outline more gradual and rounded, wants that air of majesty and grandeur which the primary class possesses. Here are no trees, no forests to take off the sombre aspect of the view,—but a bare and barren waste of crumbling soils meet the eye at every turn. Broad and sterile tracts of alluvial deposits are also traversed in the bed of the valleys, now high above the river's course, and which seem from their appearance to invite the hand of industry to cultivate the soil, yet days may be passed without a village being met with to gladden the cold and dreary solitude.

If even a village be found, no welcome is seen in the eyes of the half scared inhabitants, who, fearful lest their stores should be taken from them without payment, either deny that they possess any thing at all, or abandon their huts at the approach of the intruder. When assured that no force will be used towards them, they become, on the other hand, such harpies, that it is impossible to procure the commonest article without paying a most exorbitant price for it. A great inconvenience arises from the want of a copper currency. Throughout the districts of Hungrung and Spiti, as far as I travelled, nothing could induce the people to receive pice; they have no use for them among themselves, as every thing is on a system of barter,—wool for grain, woollen stuffs for salt, tobacco, &c.,—but no money generally speaking passes from hand to hand among them. The only time therefore when they find the use of money is at the annual fair held at Rampore in the month of November, at which season they purchase the various articles and supplies which are to last them till the same time in the ensuing year,—or which are to be taken up into the higher and remoter hills. In exchange for these things, which consist of goor, tobacco, iron, grain, &c. they give to the dealers, biangee\* wool, pushm, sooklant, birmore, chowrees, blankets, borax, &c.

Even here therefore they pursue a system of barter with the people of the lower hills and plains, and their money is only useful when they wish to purchase some trifling articles, such as beads, looking glasses, &c., from those to whom their merchandise would be useless.

\* A term applied to Thibet sheep wool.

In Spiti the only coins which are received, are the old Culdar rupees, and a small silver money of Ludak, of four annas in value, called a "Powlee."

Thus, as no pice are current, the value in full must either be taken for your money, or you pay four annas for that which is worth but one. The way my people used to manage, was to club together to take a certain quantity of anything, so as to have the full value of their money; but I was constantly obliged to pay four annas for the cup of milk for my breakfast, or drink my tea without it.

In Hungrung, which is under the government of the Bussaher Raja, another silver coin, worth two annas, and also sometimes termed a "Powlee," though more properly a "Timashé,"\* is current, as it is likewise in Kunawur. Still, except in Kunawur, no pice are received, and the people say they have no use for them. Formerly there existed a *brass* currency in Hungrung and Kunawur, but it has long since fallen into disuse. The inconvenience, however, is not so great in Hungrung, because the Powlee is of only half the value of the Ludak coin. Silver money is always readily received, because it can be applied to various purposes, either in paying the rents, &c. to their governments, or by melting down into ornaments.

Lead is found in the neighbourhood of Pokh, but in such small quantities that no mines are worked, and it is only when a supply of balls are required, that any one will take the trouble of going in search of it.

The district of Spiti may be said to produce no trees at all, except a few poplars and willows planted round the villages, to serve for economical purposes when required, and which being all planted by the hand of man cannot properly be admitted into a list of the productions of the country, or suffered to be at all characteristic. No fruits of any kind are seen, neither grapes, peaches, apricot, apples, walnuts, nor in fact any of those fruits which are so abundant in Kunawur. Of shrubs, the "Himalayan" and "Chinese fruze"† are the most abundant, and form the chief fuel of the people; these are cut and dried in the summer months, and stored up on the flat roofs of their houses, where they form thick stacks against the

\* Is this a corruption of "*Timour Shah-i*?"

† *Astragalus*.



rigors of the winter season. Besides the furze there are few shrubs met with, save the dog-rose, and a creeping plant called "Kábráh," which spreads along the ground, bearing a large and beautiful white flower. The rose is sometimes cut and stored up also with the furze for fuel. Growing wild over the almost barren hills, amidst the loose and crumbling soils, is a small plant bearing a pea-shaped flower, of a pale rose colour, the leaves of which when bruised are thought by the shepherds to be efficacious in the curing of maggots in sheep, and which when applied to the infected part, is said to cause the insects to drop out; it is called "Taksha."

A traveller journeying through this district in the summer months, would fancy, from the few sheep and cattle seen about the villages, that flocks and herds were wanting; the fact however is far otherwise. In June when I passed up and down the valley of the Spiti, I scarcely saw either a sheep or a goat, excepting the flocks laden with grain, and which did not belong to the district. Of cows there were a few, but yakchas\* none. This is owing to the custom which prevails, not only here but in Hungrung and Kunawur also, of sending the flocks to the higher regions, where, when the snows have melted away, a rich vegetation soon springs up, affording a pasture that the lower tracts cannot produce. Grasses, potentillœ, wild onions, rhubarb, and herbs of various kinds abound over these tracts, intermingled with the furze, and extending to the height of 16,000 feet above the sea. The sheep and goats are tended during the day, and penned at night, sometimes on the open mountain side, guarded by several dogs, or enclosed in temporary huts called Dogress.

The yaks, on the other hand, are turned loose on the pastures, and left at large to roam at will, and to take care of themselves during the summer, and are only reclaimed when the ploughing season or the winter arrives. They are employed both as beasts of burthen and in the tilling of the ground, though former travellers have denied that they are used in husbandry. For the former purpose, however, ponies and goats or sheep are preferred, as the yak cannot travel for many consecutive days without being knocked up. In the plough they have much more the appearance of

\* Yák or Yakcha is the name of the Tartaric or Yak ox (*Bos poëphagus*.)

large shaggy bears than of oxen, and like true mountaineers they evince the greatest impatience under a yoke, and it is therefore necessary for two men to attend the plough,—one directing the plough, while the other walks before and leads the cattle, which are guided from the nose like the oxen of the plains.

It has been said that the yak is so savage, as often to put to flight the inhabitants of a whole village. To this opinion I can by no means assent, for though I have often passed a herd at graze upon the mountains, or carrying burthens along the road, I never saw the least sign of vice among them, nor did they attempt to run at any body. On the contrary, I pronounce them to be gentle and timid, evincing always much more disposition to run from, than at, one; such too, was the character given of them by the Tartars. It is very probable that a savage animal may occasionally be found, as we know to be the case with the cattle of our own country,—but this is only an exception, and cannot justify the sweeping assertion that the breed is savage.

The best proof of their gentleness is found in the fact, that a herd of twenty and thirty yaks is often driven by a mere child, and I could hear of no instance in which the urchin needed farther assistance.

In the higher parts of Kunawur and in Tartary, the yak itself is the breed of cattle in most general use, but in the less elevated tracts, and in lower Kunawur, several cross breeds are used.

The *male* is termed “Yakcha,” and the *female* “Breemoo”; this is the true “*Bos grunnius*,” or Grunting ox” of Linnæus, and the “*Bos poephagus*” of Hamilton Smith. From the *Yakcha* and the common little cow of the lower hills, proceeds the “Zo”, and its female “Zome”; from these and the *Yakcha*, or *Breemoo*, proceeds the “*Strool*” and “*Stroole*.” Both these cross breeds are somewhat similar in form to the yak, but they want the long hair on the sides and tail, and are less strongly made.

From the “*Breemoo*,” or female yak, and the Hill bull, proceeds another cross breed very similar to the foregoing, and called “*Garra*” and “*Garree*.” All are employed in husbandry, and in carrying loads. Black or red are the prevailing colours, and very few are white, except at the tuft of the tail.

Besides these breeds of cattle, the people possess sheep and shawl goats, mules, and large herds of *Ghoonts*, or hill ponies. The dogs

are not numerous, and are a sadly degenerated breed of the Thibet mastiff (*Canis molossus* var *Thibetanus*).\* Cats are seldom seen, but are similar to those of the lower hills, being usually of a deep grey with darker narrow transverse bands on the sides.

In a country so bare of forest scenery, and presenting so little cover, it is not to be wondered at that the wild animals are few in number. The ibex, wild sheep, vulture, eagle, Indian vulture, raven, chough, chicore, bhair, sparrow, snow bunting, some pigeons and Brahminee ducks, were nearly all that were seen or heard of.

The ibex is known throughout the upper portions of Kunawur and in Tartary, by the name of "*Skeen* or *Sikeen*" and appears to be identical with the animal called by Hamilton Smith the "*Abyssinian Ibex*," or "*Capra Jaela*." It is found only in the most inaccessible parts of the mountains near the borders of eternal snows, leaping with surprising agility from crag to crag, and bidding defiance to pursuit.

It is therefore only when the heavy falls of snow on the heights where they love to range have driven them down for pasture to the lower and more accessible parts on the borders of the forests, or in the shelter of the glens, that they fall a prey to the wary hunter, who stealing on them with noiseless tread, fires on the herd from behind the shelter of some ledge that screens him from their sight.

I had no opportunity of inspecting a perfect specimen, but from the horns and skins, the following description of the "*Abyssinian Ibex*," taken from the Naturalist's Library, would appear to be appropriate.

"It is of a dirty brownish fawn colour, with a short beard, and lengthened hair under the throat down the breast, and a darkish line on the anterior part of the legs and along the back. The horns are superior in length to those of the European Ibex, forming a half circle closer on the forehead."

In the Himalayan ibex, the horns are large, rising as in the European species, "from the crest of the skull, and bending gradually backwards"; "they are flat-sided, and have the anterior surface ringed or barred with very strong cross rugged bands."

The same opinion regarding the increase of these bands with age, is prevalent in these mountains, the natives declaring that *two rings or bands* are the growth of *one year*.

\* For a good figure, see "*Gardens and Menageries, Zoological Society*".

I showed a plate of the European ibex to the Leepee hunter, asking him if he knew what it was, and he had scarcely set eyes on it, when he exclaimed with delight, "wah, wah, it is the Skeen."

The animal has in a great degree the strong smell peculiar to the males of this genus.

The wild sheep is the same as that which in my trip to the Burrrenda Pass, in 1836, I erroneously stated to be a variety of the "*Ovis ammon*"; I had not then seen one near. Since that time, however, I have had opportunities of inspecting several fine specimens, and find it to be the "*Ovis nahoor*" of Nepal, which has been already ably described by Mr. Hodgson. It is known to the Hill people of the west as the "Burrul."

Of the "*Ovis ammon*," I could learn nothing, save that an animal apparently answering to the description, is found in Chinese Tartary, and I saw an enormous pair of its horns, nailed among other kinds, to a tree as an offering to Devi.

It is said by writers, that one of the descriptive characters of the European vulture eagle consists in its proneness to attack the flocks of sheep, dashing downwards from on high with irresistible strength, and hurling the young or sick animals over some precipice, in order that it may banquet on the crushed and mangled carcase.

If such account be true, it furnishes a strong additional reason for separating the "*Lamergeyer*" of the Swiss, from the Himalayan bird; for the latter is never known to attack aught of larger size than a barn-door-fowl, and it must be hard pressed indeed by hunger ere it will even venture that. Its food consists, as I stated on a former occasion, of carrion and offal, which it takes in company with the true vultures, or snatches from the ground in its talons after the manner of the kite (*Falcochula*) and devours it as it flies. It ranges from Subathoo in the lower hills, to the barren and snow-clad heights of Tartary.

The Chough, or red-legged crow (*Pyrrhocorax graculus*), is common over all the snowy heights of Kunawur, from 10,000 feet and upwards. In Tartary it is very abundant, and appears to be identical with the English bird, though rather exceeding it in size. In Hung-rung and Spiti I observed a second species, apparently possessing the



same habits, and similar to the common chough in all, save the bill, which is much shorter, and of a bright yellow colour, instead of the rich orange of the Cornish chough. The legs are similar in both. They appeared to keep apart from the other species, and were most abundant where the former were fewest. Dunkur and the upper parts of the valley seemed to be their proper habitat. It is in all probability a known species, and comes I think into Cuvier's genus "*Fregilus*."

As the winter approaches, both flocks and herds are again driven down to the villages, where they are fed on fodder, which has been stored up for them during summer. This consists in a great measure of the tender shoots of a shrub, which grows over the hills, especially in Hungrung, and the upper portions of Kunawur, in great abundance. It is common wormwood, and possesses the pleasant smell of the southern-wood of England, which is I believe the same plant, or a closely allied species; where this shrub occurs in great abundance the air is often scented with it, and if trodden under foot the smell is both powerful and pleasant.

In the season when the men are on the mountains with the flocks, or carrying grain to those parts of Chinese Tartary where little or none is produced, the care of the crops around their villages devolves almost entirely upon the women, who are seen early and late throughout the day, weeding and irrigating their fields.

The chief produce of Spiti is common, celestial, and beardless barley, (nunga jow of natives) wheat, beans, peas, and phuppra, which are produced in some abundance in the lower parts of the valley from Dunkur downwards.

Dunkur is the chief mart for grain, and has a goodly patch of cultivation around it.

Birmore, a thick kind of woollen cloth, somewhat of the texture of a blanket, is made in this district of the wool which is received from the Choomoortee and Thibetan shepherds. The cloth is made in pieces of about eighteen inches wide, and varying in length from six to twelve yards, and has some resemblance to the thick woollens of which box coats are made in England. These pieces are sold generally in pairs, at five to seven rupees, according to the quality and size.

Though yaks are plentiful through this district, no chowrees are procurable, as the people neglect the tails of the animals, the long hair

of which is consequently broken as they roam among the furze of the upper tracts during summer. The villages of Nako, Chungo, Leeo, Poo,ee, and Hungo in Hungrung, are some of the places from whence chowrees are chiefly exported to the lower hills, and much care is bestowed upon their growth.

The black ones are not esteemed by the natives, and are therefore left to nature, and are either used to hang on poles, one of which is erected on the roof of almost every house as a propitiatory offering to some deity, or the long hair is plaited into ropes, which are both strong and durable. Hemp is unknown in this country, and every person of the poorer class has a rope of yak's or goat's hair twined round the waist, which serves not only as a waistband, but is also used to bind their loads upon their backs.

The white tails, however, have the hair often cut to make it grow longer, and the whole is enclosed in a bag to keep it free from dirt, and to prevent its being broken by thorns and bushes. When the hair has attained a good length, the tail is cut off, bone and all, and dried in the sun, after which the chowree, or chownree as it is termed, is sent to the lower hills for sale. In Hungrung the price asked is from 1-8 to 3-8 Co's. rupees, and even four rupees, according to the length, and the quantity of hair. At Simla double these sums are demanded by the Cashmerians, who purchase them at the Rampore fair. Formerly the price even in Hungrung was much lower, but the demand for them, since Simla has become a *fashionable resort*, has raised their value.

The same effect has been produced at Soongnum in Kunawur, with regard to the price of blankets which are there made; formerly *one* blanket was as thick as *two* of the present manufacture, and sold for the same, and often for a less price. The demand for them of late years has, however, both raised the price, and deteriorated the quality. Now, it is no longer a matter of rivalry who shall produce the *best* blankets, but who shall produce the greatest number, and the wool which formerly would have been apportioned to one, is now made into two blankets, which are sold at 3-8 and four rupees a piece at Soongnum; and at Simla from five to eight rupees by the Cashmerians.

Among the Tartars there are many families who possess no fixed habitation, but wander about from place to place, with their flocks, ac-

according as they find a market for their goods. To these people, in the language of the country, the title of "Kampa" is applied.

They live altogether in tents, or encamp beneath overhanging rocks, wandering, as the winter approaches, from their native country down to the lower parts of Kunawur and Cooloo, where they dispose of the produce of the upper hills, and subsist their flocks until the periodical rains are about to commence, at which season they again travel to their native scenes, laden with grain, iron, &c.

The Tartar who accompanied me as a guide through Spiti by order of Puttee Ram, the present vuzeer, was constantly termed "Kampa" by the people of the different villages, and at first I thought it was a title signifying some sort of authority, but it appeared on inquiry that he had once pursued the wandering trade of a Kampa, and although he was now well off, and possessed of houses and land both in Hungo and Leeo, the term still clung to him.

Another title often conferred upon him, also, was that of "Laffa," which I found to have nearly the same meaning as the word "mate" of the lower hills, that is, a servant possessing some little authority over his fellows, as the mate, or head man of a set of Japannees, the mate, or man in charge of a Dâk bungalow, and in Kunawur, the mate of a village, who is the "locum tenens" of the Mookiah when absent. Gerard more than once mentions having exchanged scarfs, or khuttubs, with the Laffa of Peenoo and other villages in Tartary, which he says is the usual custom.

During my trip through Tartary, I never even saw a single khuttub, nor did I find it necessary to offer one, although the Laffa of each place paid me a visit, and presented the usual small "nuzzur" of attah, raisins, or ghee. Gerard no doubt concluded it was necessary to present a scarf, because he had found it the custom to do so in Chinese Tartary.

All the inquiries however that I made on the subject, tended to prove that the custom only prevailed among the Chinese people, and that it was quite unnecessary to make any present at all to a person of such inferior rank as the Laffa or mate of a village.

On my return from Spiti, when starting from Leeo where my guide resided, he begged to be released from his post, as in a few days he wished to start for Choomoonnee with his last year's produce, and

purchase wool for the Rampore market. Having no farther need of his services, I dismissed him with a present of five rupees, a common single bladed penknife, and some strings of imitation coral beads, as also a string of beads for his wife.

The present though partly consisting of what I thought trash, was received by him with every mark of delight, and laying the things at my feet, he knelt down and touched the ground with his forehead,\* saying he had received a great reward.

On the 4th July, after an absence of nearly a month, I once more took up my abode in the small bungalow at Soongnum. It is a small flat-roofed house, of one room, and was built several years since by a Dr. Wilson on the site of an old temple. In front of the door is a post on which are nailed many horns of the ibex, wild sheep, and goats, and a similar collection is seen against the trunk of the cedar tree which overhangs the house.

The town of Soongnum is situated, according to Dr. Gerard, in latitude  $31^{\circ} 45'$  and longitude  $78^{\circ} 27' 24''$  east, and stands in the bottom of a glen between the high passes of Roonung and Hungrung, the one being directly in front, and the other in rear of it. The glen is called the valley, of Rūshkōolung, and runs nearly north-west and south-east. It is well watered by a stream, which runs through it from the snows on the Mānērūng Pass, above Mānes in Spiti, and joins the Sutledge a short distance below Soongnum.

From the town, extending about three miles up the stream, is a beautiful strip of cultivation of half a mile in breadth.

There are generally two crops produced during the season, the first consisting of wheat, barley, and beans, which is generally gathered in during the months of July and August, and the second of Phuppra, which is ready in all September, unless, as sometimes happens, it is destroyed by early frosts and snow.†

Turnips also of large size constitute part of the second crop, and are said to weigh two and even four pounds each. These are yellow, and when dried and pounded they are mixed with the wheaten or barley flour, and form the principal food of the inhabitants during the

\* This was performing a kind of "Kotoo" !?

† In all preceding accounts of these hills, the word *Phapur*, is almost invariably substituted for Phuppra, which is correct, and is pronounced as though it were spelled "*Fuppra*."



autumn and winter seasons. From their yellow colour and farinaceous nature, they would seem to approach the Swedish species ; some care is bestowed upon their cultivation, as if sown thickly, they have not room to swell, and consequently are of small size ;—in order to increase their growth, the fields are thinned and the turnips planted at some distance from each other, by which means they come to perfection, and are dug in October. Besides forming part of the food of the people, they are also given to cattle during the winter.

The beans have all the appearance of the common European garden vegetable, and are used when ripe to feed cattle, or are ground into flour, and eaten by the people.

From the situation of Soongnum, between the high passes, and the direction of the valley, a strong wind generally prevails during the greater part of the day, and retards in some measure the advance of vegetation, which is here far less vigorous and forward than at the Tartar villages of Hungo, Leeo, and Chungo, the first and last of which, although at a greater elevation, are not so much exposed as Soongnum.

The manufactures here are blankets and sooklat, which are exported to the Rampore fair, where the former sell according to the quality, from three to five rupees each, and the latter at about four rupees eight annas, to six and seven rupees per pair. The latter article is, however, principally exported from Khanum and Labrung, and its quality is somewhat better than that of Soongnum.

There is a large Takoordwara, or Lama temple, in the upper part of the town, to which light is admitted by two apertures in the roof, which are protected from the weather by conical roofs of cedar wood, somewhat after the Chinese style.

About half a mile farther up the glen is another and larger temple of the same description, and near it are the huts where the “nuns,” as Gerard has termed them, reside during the winter season.

These nuns are strictly speaking *female* Lamas, or priestesses, and are called “Jummoo.” They are forbidden to marry, and usually wear garments of red stuff.

Some are dispersed during the summer months, and attend upon the different temples throughout the district, reading the sacred books, and performing religious ceremonies like the Lamas ; others are occu-

pied in the care of their crops ; while those who are poor, and have none, roam about begging a livelihood.

In the winter, when the severity of the season generally prevents their wandering about, they assemble at Soongnum, and reside together in a collection of huts near the town, until the return of spring again disperses them. This at least was the account given of them by the natives.

The Lamas, on the other hand, reside during winter, some in the temples and others in their own private dwellings.

In some of the temples are large wooden cylinders\* or barrels placed on an axis and turned by a stream of water ; they are also seen at Soongnum by the road side, with a shed built over them. The temples are often ornamented with colossal figures of their gods, which are sometimes represented in grossly indecent attitudes.

The fruits at Soongnum are apricots, apples, neozas, and grapes. The apples are of good size, and are said to be finer here than in any other town of Kunawur, and ripen about the month of October. The finest grapes are produced at the village of Ukpah on the Sutledge. At Soongnum the grapes are neither very abundant nor very good, and do not occur across the Hungrung pass at all. Apricots are seen as far as Leo, where they also cease to grow ; and in Spiti, as already mentioned there are no fruits at all. Besides these garden fruits, there are gooseberries and currants innumerable on the mountains' sides, but they are not cultivated by the natives, nor held in estimation.

From Soongnum I made an excursion up the Rūshkōlung valley, towards the village of Roopa, near which I heard that veins of copper ore were found in the rocks.

This glen is certainly much more worthy the name of a valley than any I have yet seen in the Himalayas, with the exception of the beautiful and fertile valley along the banks of the Pubbur river, leading down from the Burrenda pass through Chooara.

For three miles from Soongnum, the pathway lay through rich fields of barley, beans, and young wheat, studded with numerous apricot trees, so numerous indeed, that the whole appeared like luxuriant vegetations springing up beneath the shelter of a large orchard or forest

\* These are used as the Manees above noted ; written prayers are enclosed in them, and the rotatory motion is supposed to make them acceptable.

of apricots. This strip of cultivation is about half a mile in width, and through it rushes the foaming stream of the Darboong river, which takes its rise in the snows of Măněrűng Pass above Maness in Spiti.

The spot partook more of the sweetness of one of those beautiful and picturesque vales in which our Scottish hills are so rich, than of the usual tameness of oriental Highland scenery.

Here as I walked along, I felt more pleasure than I had experienced during all my wanderings, while contrasting the beauty of this scene with the bare black hills of Spiti, to which I had been for so many days accustomed. There, all was cheerless, and almost devoid of vegetation; while here, around me lay a broad sheet of green fields, above on the mountains' side rose dark forests of neoza and kayloo pines, whose sombre tints were again relieved by the paler hue of the cedar and the willow, while bushes of the dog-rose were scattered at random through the valley, loaded with flowers, and presenting literally a mass of pink of every shade, from the dark bright tint of the opening bud, to the pale hue of the withering flower. About three miles from Soongnum the valley narrows, and becomes a mere mountain glen; cultivation ceasing for about a mile, when it again refreshes the sight around the village of Roopa. Beyond this the road ascends over broken rocks, and winds high above the bed of the torrent, through a forest composed almost entirely of cedar trees. These are mostly stunted, and very crooked, so that it is with difficulty that plants of any size fit for economical purposes can be procured. This difficulty has lately been increased by the erection of a large temple at Khanum, for which all the best trees in the district were selected, and few therefore of any size now remain.

Between Soongnum and Roopa, a large portion of the neoza pines are the property of the Bussaher Rajah, to whom the produce is annually sent down. These are generally situated on estates that have lapsed through the extinction of families, or other causes, and it is not a custom peculiar to Soongnum, but obtains also in other parts of Bussaher.

Three miles from Roopa, and seven from Soongnum, in the midst of the cedar forests, my guide stopped, and pointing upwards towards the summit of the rocks, which rose boldly and abruptly in rugged cliffs, he showed me a white mark far above the belt of trees, where

he said copper had been dug in the preceding year, but that now the weight of the winter snows had forced in the rock, filling the mines with rubbish, and the workmen had gone farther on in search of a fresh vein of metal.

Thinking that this might be merely a *ruse* to prevent my ascending to the spot, I desired him to show the way, and lead me to the abandoned mine, but he declared he had never been there, and could not guide me. Hereupon a council was held as to what was to be done, for to attempt to scale the rocks without a guide, was almost tantamount to suicide.

In this dilemma we espied at no great distance a kind of bower or hut built of green branches, torn from the cedar trees amongst which it was situated; so nicely was it calculated, from the materials of its construction and its position amidst the low and stunted trees, to escape detection, and pass for part of the brushwood, that I could scarcely believe it to be any thing else, until the guide removing a large branch, exposed a door way to view.

Within this sylvan abode was a woman with an infant in her arms both fast asleep, but being awakened by the removal of the door, she replied to our inquiries that the miners had gone in search of ore to a part of the mountain some miles distant, and would not be back for eight or ten days, and that she and an old man were left behind to burn charcoal against their return.

After some delay we succeeded in finding the man, whom we obliged very unwillingly to show us the path up the rocks.

With some grumbling at the prospect of the toil before him, he at last started, and never in my life do I wish to follow any one over such a path again.

The first four or five hundred feet were tolerably easy, being composed of loose soils and fragments of rocks, over which it was not difficult to climb, from their more gradual slope, but beyond this the rocks rose at once precipitously, presenting nothing but their ragged and projecting fragments to walk over. The ascent therefore was now hazardous from its steepness, and often caused us to stop to take breath, but the footing on the rock was firm, so that by the aid of both hands and feet, we succeeded in nearly attaining the desired spot, without once thinking how we were to descend from our aerial



position. At last a deep chasm, which had once been the bed of a snow stream from above, for a while arrested our progress, until we had cut holes or notches for our feet. This was done by the guide, who standing first on one leg and then on the other, cut or scraped with the end of a stick the holes as he advanced, all the while balancing himself over a precipice, into which, had his footing given way, he must have been hurled and dashed to atoms. He, however, was perfectly at his ease, for having formed the stepping places, he turned his back upon the precipice as with the greatest unconcern he tendered his hand to steady me over the yawning gulph. It was a place that I would gladly have returned from, but having insisted upon coming, and taunted the people for their hesitation, pride forbade my return. With a beating heart, and somewhat unsteady step, I accepted the proffered aid, and succeeded in crossing.

Two such gaps in the hill side were passed before we reached the abandoned mines, which after all were holes scraped in the rock to the depth of eight or ten feet, and which were now filled up by the splitting of the stones, and the quantity of rubbish brought down by the frost and snows of winter.

Here I picked up a few weathered specimens of the ore, which I thought a very poor remuneration for the toil I had undergone.

If the path was difficult of ascension, it will be readily conjectured that it was twice as much so to descend again; by dint of sometimes descending step by step backwards, and at others almost sitting down to it, down we got in safety, after ascending and descending a height of three thousand feet, and after a walk of seven miles from Soongnum.

The copper occurs in veins of white quartz, running parallel to the strata of greywacke, and old red sandstone, which are here the chief formations. It is worked by a few miners from Rampore, who are just enabled to earn a livelihood by the sale of the ore. A small duty paid in copper is taken by the Rajah of Bussaher, who is said to have worked the mines on his own account as a trial for one year, but the small quantity obtained, the distance of carriage, and the impossibility of working more than six months in the year, induced him to abandon the undertaking. The present miner resides in the forest near the different mines, or more properly excavations, during five or six months, and sells the produce of his labours at Soongnum.

In the autumn and winter the mines are abandoned on account of the snow, and the return of spring invariably discloses the destruction of them, by the splitting of the frost-bound rocks.

Last year (1837) the quantity of ore obtained, exclusive of the Rajah's duty, was from sixteen to seventeen maunds. Were these rocks situated in the lower hills, free from the severer action of frost and snow, they would doubtless yield a good return for the labour of working them, as the ore is by no means scarce, or only on the surface as has been stated. It occurs in veins in several parts of the mountain, and is deep seated; the fact of its occurring on the surface, is simply because the outcropping of the strata exposes it to view, but the vein dips down to the N. E. between the beds of greywacke and old red sandstone, and is thus inaccessible to the rude method practised by the people, whose excavations or mines are invariably filled up with rubbish during the winter. The ore is found on both sides of the valley, at about 13,000 feet above the sea, and 4,000 feet above Soongnum.

At the foot of the rocks I found my tent ready pitched among the cedar trees. Halting here for the night, I, on the following morning again returned to Soongnum, whence after a day's rest, I proceeded to recross the Roonung Pass.

The march from Soongnum is one of great fatigue; the road being one long continued ascent from the stream below the town to the summit of the Pass, or leading to a perpendicular height of 5,200 feet in a distance of about five miles.

The road, which on my arrival here in the beginning of June, was with the whole hill side buried deep in snows, was now on the 10th July quite free in its whole extent, with the exception of a few yards at the summit, where the snow still formed a long, and hardened belt. Flowers of many kinds were seen along the way. The "*Saxifraga ciliata*," at a height of 12,500 or 13,000 feet, was just opening into flower, and the bright colours of a yellow potentilla, tinged the whole hill side.

On the *southern face* of this mountain not a trace of snow was any where to be seen, but in its place a most beautiful and refreshing sheet of young and luxuriant vegetation, sprinkled with the bright colours of various flowers.

I call attention to these facts, because it has hitherto gone abroad to the public that the snow on the Himalaya lies longer, and lower down on the southern face, than on the northern, and as both my experience in this matter, and Dr. Lord's remarks on the Hinducush are directly at variance with this *reputed* fact, I have ventured to quote the above named gentleman's words, and shall endeavour to remove what I have found to be an erroneous impression.

"At the time of our visit," says Dr. Lord, "the snow which on the southern face extended in any quantity, to a distance of not more than four or five miles, on the northern, reached *eighteen or twenty*, and at a subsequent period, November 9th, when I made an attempt to go into Turkistan by the pass of Sir Ulung, and met with *no snow* until *within ten miles of the summit*, it actually on the northern face extended *sixty miles*, or nearly four days' journey." This is a fact which forcibly arrested my attention, as the *reverse* is well known to be the case in the Himalayan chain, where snow lies lower down on the southern face than on the northern, to an extent corresponding with 4,000 feet of perpendicular descent.

But the Himalaya and the Hinducush have the same aspect; the same general direction; lie nearly in the same latitude; and in fact are little other than integral parts of the same chain. The local circumstances however connected with each are precisely reversed. The Himalaya has to the north the elevated steppes of Central Asia, and to the south, the long low plains of Hindustan; Hinducush, on the other hand, has to the south the elevated plains of Cabul and Koh-i-damun, between five and six thousand feet above the level of the sea, while to the north stretch away the depressed, sunken, and swampy flats of Turkistan."

Against this long received opinion, that the snow lies deepest on the southern face, I shall merely oppose the few facts which fell under my limited observation during my journey into Tartary, and leave others of more experience to decide the point.

First, then, it must be observed that in the month of June, when I crossed the Roonung pass, the snow lay deepest and farthest down on the northern exposure.

On the southern face of the mountains it was first met with at about 12,500 feet of elevation, "lying in large fields or patches, and

uniting," at about 13,000 feet into one broad unbroken sheet, from whence to the summit of the Pass, or 1,500 feet more, it continued so, with the exception of fifty feet at the crest, when on the southern face there was none at all.

On the northern slope, on the contrary, it commenced at the very crest of the Pass, and continued in an unbroken sheet "to fully two miles and a half," while "beyond this, for half a mile more, it was broken and lying in detached masses."

The facts observable here therefore are greatly in favour of the northern face, for while the extent of snow is there estimated at three miles, that of the opposite exposure is but *two thousand feet*.

Again, on the Hungrung Pass the southern side had far less snow, both in respect to depth and extent, than the northern face down which it stretched nearly to the village of Hungo, or to a distance from the crest of the range of 3,600 feet in perpendicular descent, or between four and five miles from the Pass.

Again, in Spiti, above Leedung, while the southern exposure of the Pass was almost entirely free from snow, except immediately at the summit of the range, the whole northern face was buried deeply to some extent.

On my return to Hungrung in July, the northern side still held patches here and there, while the crests of the mountains were covered; but to the southward not a vestige of snow remained, except far down the glen, where from the falling of repeated avalanches from above, a hard and solid mass had become wedged into an arch or bridge across the brawling torrent that descended from the Pass.

Opposite to this, and merely divided by the narrow valley in which stands Soongnum, the northern aspect of Roonung still retained "a broad, and hardened belt of frozen snows" along its crest, while to the southward, not a trace of it remained.

To the right of Soongnum, towards Roopa, on the southern cliffs, no snow remained at all, while those with the northern aspect were in most parts still deeply buried, as was also the northerly face of Manerung, in Spiti.

From these few facts it will appear, that contrary to the usual belief, the snow is retained longer on the northern than on the southern exposure, exactly corresponding to the scientific observations, and re-



marks of Dr. Lord on the Hinducush ;—and why indeed other than such a result should be expected, I am at a loss to divine. The aspects nearly the same, forming part and parcel of the same great range, surely the same phenomena in this respect might naturally be looked for.

From the crest of Roonung Pass, I bid a long farewell to Soongnum, which was seen in the depth of the glen below, and then dropping over the Pass, I descended gradually for about four miles to a stream of water, and a flattish piece of ground, where I sat down beneath a rock to await the arrival of my tent and baggage. Fatigued by the length of the toilsome ascent from Soongnum, and by the heat of the day, I soon fell fast asleep in my shady retreat, and on again opening my eyes, I found the tent pitched, and ready for my reception. It was now four o'clock p. m. and I found that I had enjoyed a sleep of as many hours, having arrived at the spot about midday.

We were here still at a height of 12,000 feet, and far below us in the distance was seen a part of the town of Khanum, while immediately beneath our encampment, at about two miles distant, was a broad piece of cultivation, with a few temporary huts called a *Dōgrēe*, and belonging to Khanum and Leebrung. These patches of cultivation, far from villages, are often met with both in Kunawur and Hungrung. A few huts are erected on them, which serve to shelter those to whom the crops belong during the summer months, and which, when the harvest is gathered in, are abandoned during the winter. To these places the flocks and herds are also driven, where upon the surrounding hills, now free from snow, they find an abundant pasturage. In the language of Kunawur these temporary residences are termed *Dōgrēes*, and in that of the Tartars "*Rezing*"; thus we find "*Rezing*" and "*Chang-rezing*", on the road to Spiti, to be patches of cultivation, and sheepfolds belonging to the inhabitants of the village of Chango.

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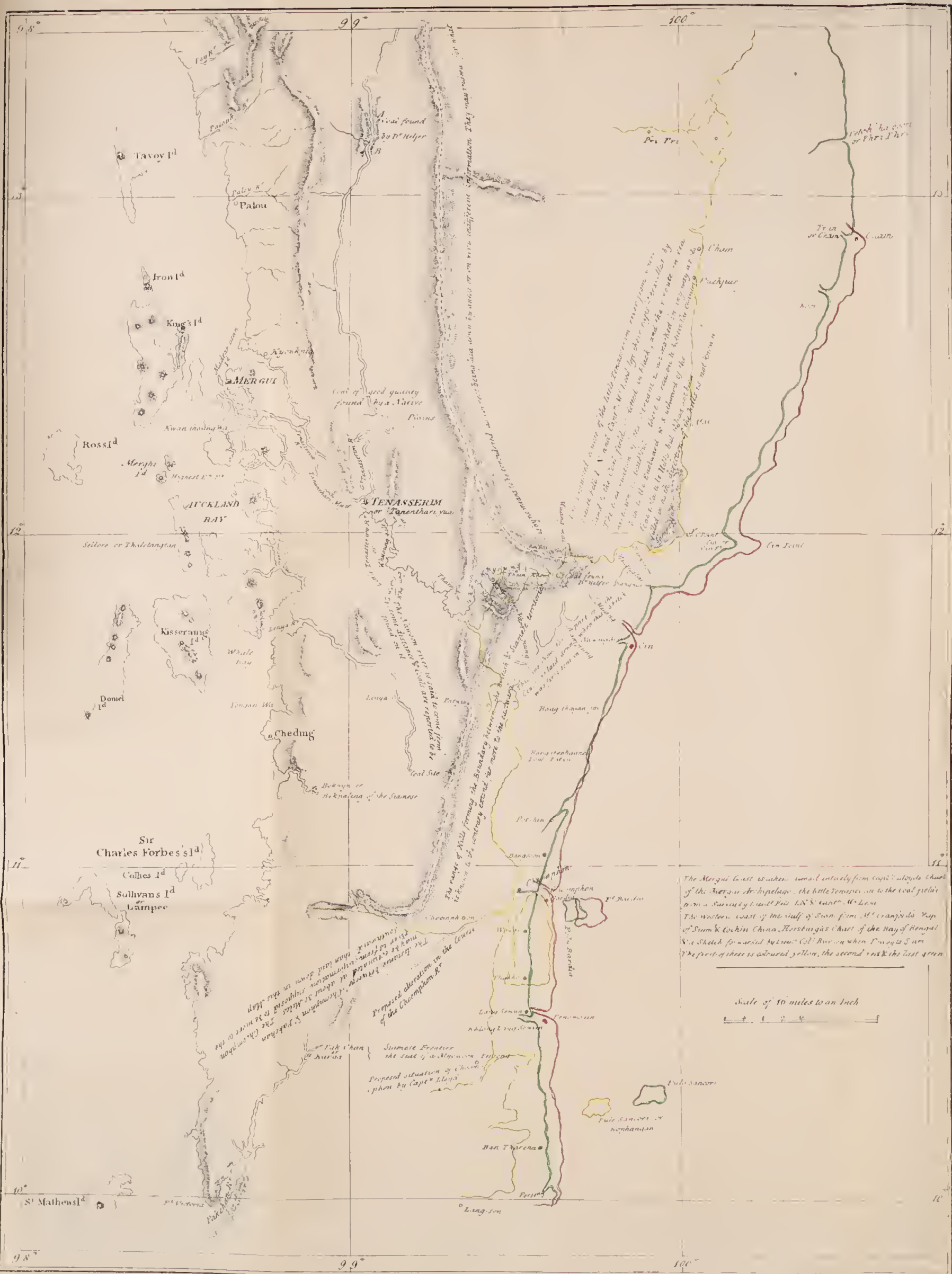
*Note on the Map attached to the Report of the Coal Committee in the 98th Number of the Journal of the Asiatic Society.*—By CAPT. MACLEOD, M. N. I. late in charge of Ava Residency.

The importance of correct geographical information, and that errors should not continue to be perpetuated through the Journal of the Asiatic Society, or at least, that what has been advanced on native information, or laid down on surmise, may not be received as indisputable facts, induce me to trouble you with this note, and the accompanying sketch.

A comparison between the sketch map appended to the Report of the Coal Committee in the 98th No. of the Journal of the Asiatic Society, and the one now submitted, will at once show wherein the errors in the former lie, I will not, therefore, take up your time by pointing them out.

The sketch by the Coal Committee, above alluded to, has been evidently copied from the map of the Eastern Frontier, by the late Capt. Pemberton; the coal locality marked C. was not noted in his original map, not having been discovered at the time of its compilation; indeed, corrections in the sheet representing that portion of the country in the map, become necessary, in consequence of many doubtful points having fallen under the personal examination or survey of various persons; and subsequent to its passing out of Capt. Pemberton's hand, a whole sheet was cancelled, and another substituted in its place. I presume, however, the boundary line as marked by Capt. Pemberton from information, was preserved in the new sheet, and when the coal field was discovered, its site being from observations beyond that line, it was taken for granted as belonging to the Siamese, and placed accordingly in the Map.

The position so assigned to it, has evidently led the Committee into doubt; for in the report above noticed, it says, "although the quality is excellent in the third situation in which the mineral has been found by Dr. Helfer at C., yet its distance from the coast is such as to render it of very doubtful utility on the Bengal side of the Peninsula, whatever benefit it may eventually prove on the Gulf of Siam, as it *seems* to be situated *beyond* the boundary range of hills." It is this point that, I think, merits some attention, and on which I have to offer a few observations.







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N<sup>o</sup> 1 is an occipital view of a bovine animal similar to the one delineated in the Journal for Nov<sup>r</sup> 1839 but the horn here is free of matter giving the exact size which could not be determined in the former

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Frontal view of the same



That there is no possibility for the Siamese to benefit by this coal field, even supposing that it belongs to them, is almost certain; for they have no water communication to the place; but the coal, if ever required, must be transported by a land route, and I presume over hills, though of what magnitude, I will not venture to surmise.

That it may not be supposed that I speak from information alone, I beg to observe, that I proceeded myself by water to within 8 or 9 miles of the spot, where finding the stream too shallow to admit even of small bamboo rafts ascending it, I continued my journey by land to the old Siamese town of Thain Khan, standing on the stream we had quitted, and from thence to the coal site, crossing many small nullahs on the way, which discharge themselves into the Thain Khan river, on the banks of which the coal is found. This stream appears to come from some distance beyond this locality, for our subjects from Mergui annually proceed up it beyond that spot for the distance of two days' journey, to cut the Karamet, or the bastard sandal wood (which is an article of commerce), and which they bring down on rafts, when the stream is swollen by the rains, without any question from the Siamese.

No boundary has been fixed on this frontier. At the close of the Burmese war, the British considered themselves as having a right either to what properly belonged to Pegue or Burmah, or what those incorporated nations held at the time of the rupture with us, and was wrested by us from them, or was included within the districts ceded to us. It is well known that a considerable space intervened between, the two countries having become depopulated by the constant aggressions of either party, and which was left unoccupied from motives of safety and convenience.

That this is not the only point in which incorrect geographical information has misled us into wrong conclusions as to defined boundary marks, will be seen on a reference to the note attached to the Map of Dr. Richardson's route from Bankok to Zimmay, published in the 97th No. of the Journal, we have to the north and west of Moulmain considered the Thoung Yeen river as the line of demarcation, and when this line is lost at the source of that river, a range of mountains supplies its place, and which is supposed (for I may safely say no part of the line from the 14th degree of Lat. downwards has been examined) to continue in an unbroken line to the southern extremity of our

territories. It must be admitted, that this change from a river to a range of mountains, which coming from the N. W. runs at some short distance from, and parallel to it, and in which numerous streams take their rise, and descending the hills contribute to swell that river by their tributary streams, is not the best line that could have been selected. But it is now discovered, that the range of mountains themselves was considered by the Burmese and Siamese as the boundary.

Capt. Lloyd also, from whose excellent and accurate Map of the Mergui Archipelago I have borrowed largely, when speaking of the same coal field, the position of which was fixed by Lieut. Fell of the Indian Navy and myself, appears to doubt "whether the locality in question is in the British or Siam territory; for Cin Point of the charts on the Gulf of Siam side, is in latitude  $12^{\circ} 10'$  N. and longitude  $100^{\circ} 10'$  E., or only 35 miles in a direct line further from the coal site; whilst from the town of Cin, situated in a more southerly direction, where the Gulf of Siam is represented as having a deep course to the westward, it is only 23 miles."

The mountains on the eastern shore of the Gulf of Siam, called by the Siamese Samroi Yot (the 300 peaks), is mentioned by Mr. Crawford in his "Embassy to Siam and Cochin China;" he says, in latitude  $13^{\circ} 2'$ , "a few miles to the north of us was seen the entrance of a river, upon which is situated the town of Kivi," (Cin). This shows that there are rivers rising in the range of hills to the westward of it, which flow into the Gulf of Siam, and whether the Kivi river or the Thain Khan, or as some call it, the little Tenasserim, rise in the same range or adjoining ones, that range in which the latter has its source is certainly our proper boundary. From Cin Point the coast has been delineated from *native* information, though I believe the best of the description that could be obtained; but may the coast not have been drawn as tending too much to the westward from Cin Point? But whether it does or not, or what ever the breadth of the range of hills may be, I conceive, that it has little to do with the present question, for no doubt can exist, even on a reference to that *ultima ratio*—the Law of Nations.

I think we should be culpable in the present case to remain silent, and allow a Map to go forth disseminating error, and which might be hereafter brought forward as clearly defining the boundary line.



I cannot avoid noticing, that a most interesting point of geographical research still remains involved in doubt; viz. the breadth of the Peninsula between the Mergui Archipelago and the Gulf of Siam; the advantages which might result to Government, both in a political and commercial point, by an investigation into the subject, has already been brought forward by Captain Lloyd and others, and it is to be hoped, now that our attention is called to the Eastward, that this portion of the Peninsula by which the communication across might be facilitated and shortened, may be examined by experienced and intelligent Surveyors.

*Calcutta, July 27th, 1840.*

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Note.—I had received the above interesting geographical notice, when it occurred to me to refer the subject to Capt. J. Lloyd, of the Indian Navy, so well known by his recent valuable surveys in the Bay of Bengal, which with Capt. Macleod's ready permission, was done accordingly. The result of the reference appears in the following notes, addressed to me by these officers, which will better explain their views and opinion on a geographical point of some interest when given in the original, than would be the case were I to attempt to embody their contents in a more compendious form.

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*From CAPTAIN LLOYD to the Officiating Secretary.*

"We know nothing of the Coast about and below Cin Point beyond what the old maps afford us, and which disagree very much; indeed, this portion of coast seems to be very little known, and is a part which I pointed out as desirable to be surveyed three years ago. Capt. Macleod has had access to all the charts and information that I have been enabled to get hold of, and therefore there are no additions or alterations in his map that I could venture to make; but as my recent survey makes the mouth of the Pakchan river, which forms the boundary of the British territory, considerably further to the southward than laid down in Captain Pemberton's map (nearly a degree), I would suggest that Champhon be brought further down, so as to correspond with the best information we possess of its being nearly east from, or on the parallel of the town of Pakchan or Karao."

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*From CAPTAIN MACLEOD to the Officiating Secretary.*

"Many thanks for the perusal of Captain Lloyd's note, which I have kept longer than was intended, to make some additions to the sketch.

My object in furnishing you with the sketch, was to rectify such errors as I could within what I supposed to be our own territories; but as the position of the Choomphon river has now been brought forward, the whole of that portion of the west coast of the Gulf of Siam may be taken into consideration; I will, therefore, at the risk of tiring you, even enter somewhat fully on the subject.

When I made the sketch I sent you, I followed Crawford as the latest authority for that part of the coast of Siam, except so far as to give the coast below Kivi Point a less curvature than it had in his map, to accommodate it to the site of the coal fields. I have since looked into Horsburgh's Chart, and find his delineation of that part would have suited me better. I have also since met with certain documents connected with that coast, and a sketch, which I shall allude to below.

I have now added to my original sketch the outline of the Siamese coast as given by Crawford, Horsburgh, and the sketch mentioned above, so that these being placed in juxta position with each other, you will be able, at a coup d'ail, to see the differences of the authorities, and draw your own conclusions.

I am not acquainted with Horsburgh's authorities for his chart. Mr. Crawford sailed in sight of Kivi, or Cin Point, so that we may consider this point as satisfactorily fixed. The remainder of the coast was delineated from information obtained from an intelligent native Mahomedan of Siam, who was acquainted with the use of maps, &c. and could even take an altitude of the sun. So that the value of these two authorities must be left to the judgment of persons interested in the matter.

I must now revert to the sketch noticed above. During Colonel Burney's Mission to Siam in 1826-27, he left at Sigor, Mr. Harris, Acting Assistant Surgeon, and Mr. Leal, his interpreter, to accompany the rajah of that place by land to Bangkok. Mr. Harris appears to have kept a Journal, from which I have extracted largely, as the accompanying paper will show; and though the purpose I intended it for has been nullified, yet as we are on the subject of that coast, I enclose it.

By the Journal it appears that the late Mr. Leal, who was, I believe, a nautical man, fixed the latitude of many places by observation, and

amongst others Choomphon. These materials were embodied by Colonel Burney; taking as it will be seen, the coast line from Horsburgh for his ground work, I concluded that the point respecting the position of Choomphon would have been thus set at rest, but finding that though many of the latitudes given in the Journal coincided with the position of the places as laid down by Horsburgh, that with a quadrant only, which Mr. Leal had, (unless some mistake has been made respecting the instrument) he could not have taken the altitudes of the sun at the places where he was, at the time of the year, to produce the results given, unless he worked by double altitudes, which from the situation he was in, I fear he could not have had the opportunity of doing, I am at a loss, therefore, what value to place upon these observations, especially as he has made a great error in the position of the Pakchan river, on the western side of the Peninsula.

Mr. Leal proceeded from Bangkok to Mergui with a number of Burmese captives, who had been released by Colonel Burney's exertions. This portion of Mr. Leal's journey has been noticed by Mr. Wilson in his usual interesting manner, and devoid of the stiffness of a Journal. It does not appear that Mr. Leal took any observations during this journey; at least the author does nor mention them, nor does he indeed notice those noted in Mr. Harris's journal in their journey up to Bangkok.

After landing at Bangnorom, in the Gulf of Siam, on the fifth day, Mr. Leal and his party reached the Kosoon mountain. This is placed in the sketch by Colonel Burney about thirty-five miles direct from the village on the coast.

By the description of this portion of the journey, I conceive the mountain to be one of the range placed by me immediately to the southward of the coal field, or a continuation of them to the eastward. A tree was pointed out to me as the spot where conferences were held by the Burmese and Siamese; this may have been one of the three mentioned by Mr. Leal. I did not, however, understand that it marked the boundary, and would, I think you will admit, be a strange mark in a land of mountains and forests to divide two countries. I was informed that the spot was selected as the most convenient and spacious for such meetings, after passing over the hills from the Siamese side, and, indeed, the only one adapted for such assemblies,

certainly for many miles towards, or in the Burmese territories now ceded to the British, as far as I know or saw.

That the place is the same as alluded to by me, the similarity of the name, making allowances for Burmese and Siamese pronunciation, will show; the Burmese call it *Thaing-Khon-Myo*; Mr. Leal, *Sing-Khon-Thape*. *Myo* is the Burman word for a town, and may correspond in signification to the Siamese word *Thape*, which has been dropped by the Burmese, and the other substituted for it.

That the stream the party came upon was the little *Tenasserim*, or that part of it called the *Thaing-Khon* river, there can be no doubt, both from the length of time they were coming down on rafts, which on the great *Tenasserim* would have placed their starting point much too far north, and from the channel being obstructed by trees, which is not the case with the latter, but which I found to be with the former. The party themselves were of two opinions as to which branch they were on. This I think will bear me out in what I said respecting the hills, marking our boundary in the map of the Coal Committee.

The next point to be noticed is the *Pakchan* and *Choomphon* rivers, jointly. Mr. Leal proceeded up the former river, and travelled by land to the town of *Choomphon*. He does not appear, however, to have made use of a compass in ascending the river, for in the sketch, its course is marked as being from east to west, and that of the *Choomphon* river, which he says is very winding, from west to east. The late Dr. Helfer, found the course of the former to be from the NE.; now as Mr. Leal has made a mistake in this, is it not possible that he has followed up the error in the latter, and made it run from the West instead of the SW.? If so, there would be no necessity for moving the mouth of the *Choomphon* river to the Southward, but merely to change its course as marked by me on the map.

All the information obtained by Captain Lloyd, and what Mr. Leal says, would justify the removal of the town and river of *Choomphon* as proposed by Captain Lloyd, but there would be some difficulty in accommodating the other places on the Siamese coast to it. Some of these may have been correctly laid down.

*Choomphon* had a force stationed at it when the Burmese held the *Tenasserim* Coast, to watch their proceedings, and also to make



occasional kidnapping incursions into the Burmese territories; it is well known that in those days Mergui and Tenasserim were the only places inhabited, having forts for the protection of the inhabitants. If Choomphon was moved to the Southward, would not the distance which is for such purpose already great, be somewhat beyond bounds?

Taking every thing into consideration, I should be inclined to leave the Siamese coast alone, and rather than removing Choomphon at a venture, and continuing without wholly rectifying an error, merely add the notes to the maps as I have done. I hope the day is not distant when we shall have these points satisfactorily adjusted.

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*Extracts from MR. HARRIS's Journal, taken from MR. MOORS's work on the Indian Archipelago.*

"Dec. 18<sup>th</sup> 1825.—Leave Ligor—crossed the Tha-Wang (1) river, and halted for the day at the village of Nam Jin. Mr. Leal made the latitude of Ligor by observation 8° 17' 16" N.

"19<sup>th</sup>.—Remained all day at Nam Jin.

"20<sup>th</sup>.—Started from Nam Jin at about 9 A.M. At 10 crossed a small stream, Nam Khôa, from which the road was very bad, until  $\frac{1}{2}$  past 2 P. M. when we arrived at Ban Hooa Thap-han, close to the sea-side.

"21<sup>st</sup>.—Started at about 10 A.M. and after passing over very bad roads covered with water, arrived with a few of the party only, at 8 at night, at Ban Cloi, a village on the right bank of a river of the same name.

"22<sup>nd</sup>.—The Rajah not being up, we took a boat and went down to the mouth of the Cloi (2) river in about an hour. Mouth of the river in latitude 8° 42' N.

"23<sup>rd</sup>.—Detained all day at Ban Cloi.

"24<sup>th</sup>.—Started from Ban Cloi at  $\frac{1}{2}$  past 7 A.M. At 10 crossed a small stream named Khlong Punsoo. At  $\frac{1}{2}$  past 10 another, Khlong Klien. At  $\frac{1}{2}$  past 12, another, Khlong Nam Hooa, near which we passed through paddy fields. At  $\frac{1}{2}$  past 1 we crossed the Khlong Tha-phoon; at 3 Khlong Thanok, near the foot of a high hill; and at 6 P. M. we arrived at a place Ban Krang, (3) where we halted for the night. Our halting place was situated at the foot of a hill, on a beautiful plain, through which a fine clear stream, Khlong Krang, flowed.

"25<sup>th</sup>.—We crossed the Khlong Krang, at  $\frac{1}{2}$  past 7 A.M. At 11, Khlong Soch Hoon. At  $\frac{1}{2}$  past 2 came in sight of an extensive range of mountains on the left side of the road; and at 6 P. M. arrived at our halting place near the village of Hooa-nat.

"26<sup>th</sup>.—Left Hooa-nat at 8 A.M. and after crossing three or four streams, and

1 I suppose this is Crawford's Ta-yang.

2 This must be Horsburgh's Clay.

3 This is about where Horsburgh and Valentyn place Along.

in one place some hilly ground, called by the Siamese the Nine Hills, we arrived at 6 P.M. at our halting place, near a small village named Kahnom. (4)

"27th.—Detained by heavy rain.

"28th.—Started at  $\frac{1}{2}$  past 6 A.M. and at 12, crossed a stream, Khlong Chekram, and halted at Ban Chekram.

"29th.—Started at  $\frac{1}{2}$  past 7 A.M. At 8 crossed Khlong Tha-thang, a small stream. At 12 passed near some hills, the road leading between two of them, at some distance from each other; and at about 3 arrived at our halting place near Ban Hude, on the side of a very rapid stream, Khlong Koowat, which we crossed.

"30th.—Halted.

"31st.—Started at  $\frac{1}{2}$  past 6 A.M. At 10, crossed, Khlong Dinles; and at  $\frac{1}{2}$  past 10, Khlong Sai; at  $\frac{1}{2}$  past 11, Khlong Banpring; and at about 3 P.M. arrived at the halting place, Ban Kliung.

"1st January. Started at  $\frac{1}{2}$  past 6 A.M. At 10 crossed Khlong Hooei Yong reng; at 12 saw a hill to our left, and at 2 P.M. arrived at our halting place on the right of a large river, Khlong Tha-Khan, on the opposite of which, towards the mouth of the river, is a large town called Ban-Phoon-phin. (5)

"2d.—Detained in crossing the elephants. We attempted to go in a boat down to the mouth of the river, but it was too late in the day. We saw a branch of the river running down to the southward, which we were told led to the town of Bandon. We visited the town of Phoonphin. Mr. Leal took an observation, and made the latitude  $9^{\circ} 38' N$ .

"The Thakan (6) river is the northern boundary of the Rajah of Ligor's jurisdiction.

"3rd.—Started at 10 A.M., crossing Khlong Thakhan in a boat, down the left bank of which river, the road passed for some time. At 4 P.M. arrived at our halting place near Ban Kalok. •

"4th.—Started at 7 A.M. 12 crossed a small river, and passed through two small villages; halted at 2 P.M. at Phumrieng, (7) a small village situated inland of the town of Chhaiya.

"5th.—Visited the town of Chhaiya. The river is a large, broad, deep stream. We did not cross the river (8) but passed, as I suppose, at the head of it. Latitude  $9^{\circ} 57' N$ .

4. This is likely to be "Carmom" of various charts and maps, although by them the river of that name is placed more to the southward, and Carmom point is about  $8^{\circ} 55' N$ . Lat.

5. Crawford's Punssin.

6. The Thakham discharges itself, it is said, into the sea by two embouchures; the northern one having the town of Thathong at it, and the southern one Bandon. The Rajah stopped at the place where the river is usually crossed, and where it bears the name of Thakham, though the name of Bandon is some times erroneously given to the whole stream. The Thakham is said to be a large stream, which leads to Pennon, 3 days journey from Phoouga, near Junk-Ceylon. There are numerous islands at the mouth of this river, or rivers, named by Horsburgh and Vallentyu 'Larchin Islands.' Mr. Crawford in his map lays down this part of the coast very differently from the authorities above noticed; a reference to the sketch No. 2 will show the points wherein they disagree.

7 Crawford's Punrieng.

8 Mr. Harris states he did not cross the Chhaiya river. The town is probably, therefore, situated on an arm of the sea, unless the small stream crossed during the march of the 4th be the head of the Chhaiya river. Horsburgh has a place called Pataon on or near the site of Chhaiya, but as Crawford has left it out of his map, it in all likelihood does not now exist.

"6th.—Started at  $\frac{1}{2}$  past 9; at  $\frac{1}{2}$  past 2 passed a large stony hill, and at  $\frac{1}{2}$  past 4, arrived at our halting place, near Ban-Tharena.

"7th.—Started at 8 A.M. crossing a small stream, Khlong Tharena, and at 11 arrived at the sea beach. We passed the mouths of two streams, Khlong Kauthoree and Khlong Punke Doowat; at 4 halted on the sea-shore.

"8th.—Pursued our journey for an hour along the sea-shore; we then turned inland; and at 5 passed through a village; at 6 saw a high hill. At 7 arrived at our halting place on the right bank of a large river, Khlong Lang Sewun, on the other side of which is the large village of Lang Sewun. (9)

"9th.—Halted.

"10th.—At  $\frac{1}{2}$  past 7 crossed over in a boat; at  $\frac{1}{2}$  past 1, crossed a small stream named Khlong Thakho, and arrived at our halting place, near a village on the other side, called Thakho.

"11th.—Started at  $\frac{1}{2}$  past 7, and at 2 halted on the right bank of a stream, Khlong Suwi, near a large village named Suwi.

"12th.—Crossed the Khlong Suwi at  $\frac{1}{2}$  past 9, and at 1 P.M. halted on the right bank of a stream, Khlong Wisai, near a small village named Wisai.

"13th.—At  $\frac{1}{2}$  past 8 crossed the Khlong Wisai; halted at 6 P.M. on the right bank of the Chhoomphon river, near and below the town of that name. (10)

14th.—Halted. River extremely winding. Mr. Leal made the latitude of Chhoomphon  $10^{\circ} 55' N$ .

15th.—At  $\frac{1}{2}$  past 7 crossed the Chhoomphon river, and halted at  $\frac{1}{2}$  past 5 at Bangsoou.

16th.—Started at 7, and halted at  $\frac{1}{2}$  past 3 at the head of a small stream called Pathiu, near the mouth of which is a small village of the same name.

"17th.—Halted.

"18th.—Dropped down in a boat to the village of Pathiu. Mr. Leal made the latitude of Pathiu  $11^{\circ} 10' N$ .

"27th.—(Here they were detained until 27th, when,) we left Pathiu at 12 o'clock, and after rowing for three hours, we anchored close to the shore; at 9 P.M. there being a fine breeze, Mr. Leal who took charge of navigating the boat, insisted upon proceeding, and we then set sail.

"28th.—Continued under sail all day in sight of land, which appeared low.

"29th.—Came in sight of the high mountains called Samroi yot, (12) "three hundred peaks," at the foot of which, at a small village of the same name, we anchored at 4 P.M. to take in water; (13) at 7 P.M. continued our course along the shore where it is steep.

9 Horsburgh has a place named Penomxin about this place; whether a former town or another name for Lang-Sewun, cannot be said. Crawford has this town lower down, though he retains the Islands of Carnom and Saucori as given by Horsburgh.

10 At Chhoomphon the Siamese forces destined to attack the Burmese at Mergui always assembled, and the Governor was entrusted with the duty of watching the Burmese on the coast of Tenasserim, and since the conquest of Tavoy and Mergui by the Burmese, it has become a purely military post. This and the want of population caused by the ravages of war, account for the cessation of that valuable trade, which formerly passed between Mergui and the Gulf of Siam.

11 Horsburgh has a place called Bardia here.

12 Sam, three; roi, hundred; yot, peaks. This is Kœmfer's Jamajata, and the mountains of Pensels of Portuguese charts.

13 Near Samroi yot is a Siamese village called Kosi or Cin, which has been variously written Cin, Kicoi Cen. Loubere writes it Cuil, and Kœmfer, Kiu.

"30th.—Mr. Leal who had a compass and quadrant with him, finding that the passage along the coast would be unnecessarily long and tedious, obliged the boatmen to steer a more easterly course, and direct for the mouth of the Menan. Towards evening a stiff breeze coming on, the boat, which had no keel, could not keep her course, and was driven to leeward until 10 P. M., when she got aground on the mud flats between the mouths of the Thachise and Menan rivers.

"31st.—Got off the flat easily at 6 A.M.; between 8 and 9 entered the Menan, and shortly after anchored at the foot of Paknam.

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*Extracted from WILSON'S Burmese War.*

"The court of Siam having consented to release certain Burman prisoners, it was thought advisable to send them back in charge of some confidential person; accordingly the first detachment, consisting of between five or six hundred persons, proceeded under the superintendence of Mr. Leal.

"The party left Bangkok on the 13th February 1826, in six junks. They sailed from the bar on the 23rd, and on the 1st March, reached Bangnarom, a place on the west coast of the Gulf of Siam, in about latitude 11° 50', from hence the route proceeded overland.

"The first day's march was, in the early part, over an indifferent road, but the greater part was good, with pools of water at different places; the second was also over a good road, and terminated at a place where it branched off in two different directions, the right leading to Bangthophan, the left to Mergui, and distinguished by two large trees, one on the Mergui road, marked with two large crosses, and the other on the Bangthaphan road, with four.

"On the third day's march, the people suffered much inconvenience from want of water, not a drop of which was encountered. Early on the morning of the fourth, water was met with. The road here again divided into two, one leading to the E. (W. ?) the other S.S.E. (S.S.W. ?) the latter terminating abruptly, at a short distance, the former continuing to Mergui, and marked by a large stone.

"The fifth day's march, came early to the foot of the Kasom mountain, along the skirts of which ran a small rivulet; the mountain was steep, and the ascent and descent occupied the greater part of a fatiguing day. By 9 o'clock on the morning of the following day, the party arrived at the boundary of the Burman and Siamese states, marked by three tamarind trees; the place is said to be called Sing-khow-the-pe. In the afternoon, they halted at a pagoda, where the Burmese offered their adorations.

"The next day's march continued throughout the day along a good road to the banks of the Tenasserim river, where the party constructed seventy-five bamboo floats, for the purpose of completing the journey by water. According to impressions received on the spot, the river here was thought to be the main branch, but, according to the assertions of the more intelligent among the Burmans, it is but a branch of the Tenasserim river. The passage down the stream was very tardy, being much obstructed by trees in the river. On the afternoon of the third day a fishing boat was seen, and dispatched to Mergui, where the party arrived on the fifth day of their voyage, the 15th March.



“The party, allowing for the detention of three days at Bangnarom, and of the greater portion of the fourth and eighth day’s route, whilst engaged in ascertaining the direction of the road, and constructing bamboo floats, was about sixteen day’s passing from the bar of the Menan to Mergui, but their progress was necessarily slow, owing to the number of women and children, and we understand, that the Kasoon hill might have been crossed at a more easy pass. There are two instances on record of the journey between the old capital of Siam and Mergui, when the French occupied it, having been made in ten days, and on one of these occasions, the party consisted of prisoners in chains, escorted by a detachment of Siamese soldiers.

“The late king of Siam is said about thirty-three years ago, to have constructed the military road from Bangnarom towards Mergui, for the purpose of invading the Burmese territories : the road is described to admit elephants, and even wheel carriages. But in former times there appears to have been a carriage road between the Gulf of Siam and Tenasserim, as, in a letter from the Bishop of Tabraca, from Siam in 1761, we find the following passage : “Jáienvoyé M. Martin (à Merguy) Il alla jusqu’a Piply, ou l’on a coutume de quitter les batteaux, et y, attendit inutilement, les charretes, pendant trois semaines.” Piply is the Siamese Phriphri, a large town on the west coast of the Gulf of Siam, in about latitude 13° 20′, and once the capital of the Siamese Empire.

“From Mergui, Mr. Leal proceeded to Tavoi, by sea, and was thence sent back by the Commissioner with instructions to proceed to the Siamese station, on the other side of the peninsula, at Chhoomphon, to deliver a number of Siamese prisoners, and receive charge of the Burmese still detained there ; he accordingly started from Mergui on the 23rd March, with twelve Burman boats, and four others, containing one hundred and nine Siamese prisoners, and reached the mouth of the Pak-cham river on the 25th. He rowed up the river on the following day, and arrived at Pak-cham on the afternoon of the 26th. Mr. Leal describes the river as of considerable size. The Pak-cham river is separated from the Chhoomphon river by a very small interval of level ground, and it is said that during the spring tides the two rivers often unite. The former is, throughout, broad and deep, and the latter flows in a sandy bed ; both are free from rocks. From Pak-cham Mr. Leal proceeded across the country to Chhoomphon, in the vicinity of which he arrived on the afternoon of the second day. Having concluded his business, he returned by the same route to Pak-cham.”

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*From CAPTAIN LLOYD to the Officiating Secretary.*

“When I wrote to you before on the subject of Captain Macleod’s map of the Mergui province, which had been referred to me, I suggested that “Champhon,” situated on the Gulf of Siam side, should be brought more to the southward, so as to preserve the same relative position with respect to the Pakchan, corrected by my survey, as it had with that of the old maps, which place them nearly east and west of each other, and is in accordance with the best information we have ; but in

suggesting this, I was entirely ignorant that any observations had ever been made for the latitude of "Champhon," which appears to have been the case by a Mr. Leal; who this gentleman was, or what were his pretensions as an observer, upon which depends in a great measure the confidence his observations are entitled to, is unknown; it appears, however, that he had a quadrant, and Captain Macleod very justly remarks, that it is doubtful if with such an instrument he could take in the sun's meridian altitude, and if not, what method did he adopt to obtain the latitude? and what had he for an artificial horizon? Until we have the position of Pakchan, as well as Champhon accurately determined, (the former may be out four or five miles, as it is merely laid down from a sketch by Dr. Helfer, who had no observations), I shall be disposed to consider their present positions as only an approximation to the truth; at the same time my opinion is, that "Penomoxin," or "Penonper" of the old charts, is "Champhon" of the Siamese, and will be found to be (I mean the mouth of the river) in about the latitude which they assign to it, or  $10^{\circ} 40' N$ . But this interesting question ought to be set at rest; it is of no use, sending such men as Mr. George, "the Master Attendant at Mergui, who although he has travelled two or three times between Pakchan and Champhon, can give you no more idea of the direction and distance of the one from the other than, that he left one place at such an hour on one day, and arrived at the other, the same or the next day at such an hour! Beyond that, he has no more idea of distance, or conveying information, than a common Burmese, even if so much. I think with Captain Macleod, that it is very probable the Champhon river takes a direction different from that laid down. Forrest says, the paterage from one river to the other is six hours. Horace Wilson, in his notes on Mr. Leal's journey, says the rivers are separated by a very small interval of level ground, and it is said, that during the spring tides, the two rivers often unite."

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*Note on the Limboos, and other Hill Tribes hitherto undescribed. By*  
A. CAMPBELL, Esq. *Superintendent of Darjeeling.*

The Limboos form a large portion of the inhabitants in the mountainous country lying between the Dood-Koosi and the Kanki rivers, in Nipal, and are found in smaller numbers eastwards to the Mechi river, which forms the boundary of Nipal and Sikim. In still fewer numbers they exist within the Sikim territory, as far east as the Teesta river, beyond which they very rarely settle. In Bootan they are unknown, except as strangers.

The word "Limboo" is a corruption, probably introduced by the Goorkhas, of "Ekthoomba," the correct denomination of these people; and is generally used by foreigners to designate the whole population of the country between the Dood-Koosi and the Mechi, except such as belong to other well marked tribes, such as the Moormis, Lepchas, Bhotiahs, and Purbuttiahs. The division of Purbuttiahs is into the "Khas" Muggurs, and Gurungs, all of whom are Brahminical in religion; the Moormis, Lepchas, and Bhotiahs are Bhuddistical. In the generic term "Limboo," are included people also known as the Kerautis, Eakas, and Rais, but such is the confused notion among the people themselves of the real nature of the differences which have led to these several denominations, that they are often used synonymously with the word Limboo, and with good cause, as the appearance, habits, and religion of all are very much alike, and as all intermarry, and are not divided by caste. The Kerautis are mentioned in the Purans as a warlike race of mountain Mlechas; the Eakas are distinguished from the Rais merely by their habitat, which is confined to the lower and central ranges of the mountainous tract between the Arun and Konki rivers; the Limboos consider themselves to be the aboriginal inhabitants of the country they now occupy, at least they are satisfied that none of the neighbouring tribes have any claims of preoccupation, but they are not agreed among themselves, on the point of nativity. The majority assert that from time immemorial, the tribe has occupied the valley called "Tambar Khola," at the head of the Tambar Koosi river, and that they have no grounds for ascribing their origin as a distinct tribe to any other country. When closely questioned to account for their existence in these mountains, among races differing

from them in language, religion, and habits, a few among them state that they have heard China mentioned as the land whence they emigrated, but from what part of that vast empire, and in what age of the world, they are quite unable to give any idea. It is doubtless that they belong to the great Mongolian family of the human race. This is clearly evidenced in their form of features, absence of beard, and yellow colour of the skin, but to which of the numerous divisions of this family, to be found between the Himalaya mountains and the Yellow Sea, they especially belong, and are an offshoot, it remains for the comparisons of their language and their religion, with those of other known or unknown Mongols to decide. Although they have been long in close contact with the Hindoos, there is not any perceptible mixture of the blood to be observed, in more regular features, or in the absence of the small low nose, and presence of the beard. That they have mixed much, and for long, with the Lepchas, is evident enough from the number of persons to be met with, whose tribe cannot be settled except by a very practised observer, or by reference to the individuals themselves; and in more recent days, during the last twelve years, since the great migration of the Lepchas from Sikim to the westward has been in progress, the mixture of these two tribes has greatly increased in frequency. The Limboo is a very little taller in stature than the Lepcha, somewhat less fleshy, and more wiry in the limbs, as fair in complexion, and as completely beardless. He is scarcely ever ruddy as the Lepchas sometimes are; his eyes are if any thing smaller, and placed more to the front than the Lepchas; and his nose, although somewhat smaller, is rather higher in the bridge than that of the Lepcha. He wears his hair long, but does not plait it into a tail; has no fancy for bead necklaces; wears a Kookri instead of the Bāu; and wide trousers and a jacket, or Chupkun, in preference to the robe and long jacket of the Lepchas. To a person used to closely observing the different people of this neighbourhood, it becomes intuitively easy to recognise a Limboo from a Lepcha by his features and figure alone; but as no man can describe even his horse or dog, and far less his sheep and camels, leaving out the colours, so as to render them cognizable to another person, neither is it easy to give the differences by which a Limboo is recognised from a Lepcha, in such a manner as to render them obvious to strangers.

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At the period of the Goorkha conquest of the country east of the Arun river, the Limboos held a great portion of the country now inhabited by them in feudal subordination to the rajas of Beejapoor and Mukwanpoor. They were divided into many small chiefships, and were represented at the courts of these rajas, not Limboos themselves, by Limboo chiefs of note, who held the office of Chountra, or prime minister, either hereditarily, or by election of the rajas. In each chiefship it was the custom to maintain a fort or stronghold of very difficult access, in which the chief generally lived, and to which his chosen followers repaired for its defence during a feud with a neighbour, or dispute with the lord superior; it was to these strongholds that the Limboos retired during the incursions of the conquering Goorkhas, and in many of them that they are said to have displayed the most heroic bravery against the common enemy of the indigenous mountaineers.

The accounts now given of the resistance of the Limboos to the Goorkhas, speak well for the former as soldiers, and innumerable defeats over the latter are related as having preceded the establishment of their supremacy. Foremost among the Limboos, as brave men, are the "Pheda Hung;" they held their stronghold of Yangrong against a superior Goorkha force, for nearly a month, and did not yield until nearly the whole clan fell in a succession of assaults hand to hand with the Kookri.

In proportion to the praises bestowed by the Limboos on the gallantry of their own tribe, are their execrations against the brutal excesses of the Goorkhas when victorious. It is said to have been their custom to put all the aged of both sexes to the sword; to carry into slavery the youth and able-bodied; separating mothers from their children, and ripping open the bellies of women with child, who were unable to march with their columns. These statements are probably exaggerated ones, although they are very similar to those made by William Fraser and other British Officers of the conduct of the Goorkhas in their conquest of the Sirmoor and Gurhwal Hills, where the recency of the occurrences previous to the war with us, rendered it more easy to ascertain the truth than it is now. Whether to the remembrance of their former sufferings, or to the irksomeness of the Hindoo laws of Nipal, bearing as they do on the beef-eating, casteless,

habits and propensities of the Limboos, or to both combined, I know not; but it is certain that they are not much attached to their Goorkha rulers, and that they do not possess in connexion with them any of the strong national spirit, which so markedly characterises the Khas and Mogors, or real Goorkhas.

It has been shewn that in former times the Limboos were a war-like race, and a good deal devoted to arms, although subjects of Nipal, and this way disposed, they do not strictly speaking belong to the military tribes of modern Nipal.\* They are however found in the ranks of the Nipalese army at Cathmandū, and in the Provinces; but I am not aware that they are represented in any of the higher grades of civil or military office. Their principal occupations now-a-days are agriculture, grazing, and petty trading; but referring to their former history, they consider themselves a military race, and desire others to regard them as people who from the pressure of adverse circumstances,† are temporarily driven to these ignominious employments, but who are ready, on fitting occasion, to resume the sword as their more proper and desired means of livelihood. That the Limboos are disposed to a military life,\* may be inferred from the circumstance that fifty of this tribe from Nipal have been enlisted at Darjeeling this season; that the Lepchas are averse to such a life, may equally be inferred from the fact that there is not one individual of this race under arms at the place. The subdivisions of the tract inhabited by the Limboos are two—"Kirant Des," extending from the Dood-Koosi west, to the Arun river east, and the Limbuan country of the Limboos from the Arun west, to the Konki river east.

The Limboos, using the term in the extended sense already noticed, are ranged under two great divisions, viz. "Hung," and "Rai,"‡ and subdivided into the following families or clans:—

\* See Mr. Hodgson's Account of these tribes in the As. Soc. Journal.

† The Khas, Mogors and Gurungs furnish the great bulk of the Nipal Army, and are probably preferable as soldiers to the Limboos.

‡ Are these the original "Huns," so long sought for in the mountains of Asia by Mr. Csoma de Koros?

*Enumeration of Limboo Tribes.*

<i>Hungs.</i>	<i>Rais.</i>
Ling dum chung*	Tilikchum raí
Pheda hung	Kembang raí
Locktum chung	Phagoo raí
Chung bung hung	Luksum raí
Ilam hung	Sirma raí
Chinglenden hung	Kewa raí
Yunge hung	Eaka raí
Shamba hung†	Kumboo raí
Maboo hung	Chamlingia raí
Hembi hung	Sang pungia raí
Songmi hung	Pheka raí
Mamben hung	Shebá raí
Muringlah hung	Eaktin raí
Seringdoomyung	Kebang raí
Tegim hung	Wesing raí
Pheká hung	Nembung raí
Mangmoo hung	Chemboojung raí
Sáling hung	Yougia raí
Lābōōng hung ‡	Kambung raí
Legua hung	Poutak raí
Song sungboo hung	Kinding raí
	Paloonga raí
	Pooroonboo raí
	Limkum raí
	Phapoo raí
	Samling raí
	Koojung raí
	Khamba raí

*Religion.*

It is well known that the religions of Brahma and Buddh are the prevailing ones throughout the Himalaya, from the Sutledge to the

\* Ilam in Nipal, and Phougiari in Sikim.

† Tambar Khola, the especial habitat of this clan.

‡ Tambar Khola.

Burrampootur; and that Islamism has not made any progress in those regions up to the present time. Hindooism is probably the more recent of the two, but I am not aware that it has been settled what form, or forms of worshipping the Deity were the prevailing ones previous to the introduction of Buddhism or Brahmanism, nor is it settled which of the numerous tribes and races now found in these mountains, have the strongest claims to aboriginal antiquity.

It is probable that those have the best claim to the distinction, who even down to the present day have withstood the pressure of Hindooism and Buddhism, exercised through wily and educated Brahmuns on the one hand, and meditative tolerant Lamas on the other. How all of these tribes are distinguished, and where located throughout the vast extent of mountains indicated, I know not; but among them, must be included the subjects of this note, and the Haioos, an allied race who live among them, and more westerly towards the valley of Nipal.

For a long time it was my impression, carelessly assented to, that the Limboos were Buddhists. This arose first of all from observing the bad grace with which these people submitted to the restraints of Hindooism so rigidly enforced in Nipal, where nevertheless, they frequently are to be met with, professing to follow the Brahmuns, when they become ambitious of identifying themselves with the rulers of the country, and the religion of the state; and latterly, from the number of these people who in this neighbourhood, where Buddhism is ripe, seemed to follow with devotion the Lamas of the Lepchas and Bhotiahs. The real fact however is, that they do not belong to either of these religions, but as the Hindooism of Nipal suiting itself to the wants of the Mlecha world around it, readily admits within the pale all who practice even in a slight degree the outward forms of purity, and as the Lamas are entirely catholic in their principles, it is not uncommon to find Limboos passing for Hindoos, where Brahmuns are numerous; and very common to find them shewing all becoming respect to the Lamas, and giving their best attention to the doctrines they inculcate. The transition from their own religion, or form of worship more strictly speaking, to Buddhism, is an easy one. Altogether free from the trammels of caste, they have not to sacrifice a single habit or practice in qualifying themselves to give their readily accepted adhesion to it, and as their own gods do not seem to be jealous ones, they without alarm



readily adopt and repeat the simple invocation,\* which is all that the ignorant have to shew as their stock, whence they derive their claim to be considered good Buddhists.

It is easier to settle what religions the Limboos do not belong to, than to give a name to the one they practice. They believe in the existence of the great God, who is called "Shám Mungh," and worship other deities named Nihang Mo, Takpoopa, Hem-Sung-Mung, Teba-Sum, Hem-Sum, and Mungul Mu. Mungul Mo, is a preserving god; Hem-Sung-Mung, a destroyer; Teba-Sum, is the god of wisdom and knowledge; Sham-Mungh, the god of the universe; and Hem-dum, the household god; the counterpart of the Kool Deota of the Hindoos. They do not build temples in honour of these deities, nor make unto themselves graven images or other idols, but they propitiate the gods through a wretched description of priests, and by sacrifices of living animals. The usual form of worship consists in making small offerings of grain, vegetables, and sugar-cane, and in sacrificing cows, buffaloes, pigs, fowls, sheep, and goats, to one, or any and all of the gods, and in eating the flesh afterwards, or as it is pithily expressed by themselves, in dedicating "the life breath to the gods, the flesh to ourselves." The usual places of sacrifices are merely marked by the erection of bamboo poles, to which rags previously consecrated, by having been offered up, are tied; these are generally placed for convenience at the road sides, and a cairn of stones collected at their base. When it suits a Limboo's means to make a sacrifice, or he is otherwise devoutly disposed, he performs it just as readily at a shrine of Kali or Shiva as to Nihang-Mo. The gods above named, with the exception of "Hem-Sung-Mung" have beneficent attributes, but there are evil spirits in the imaginary world of the Limboos, as in that of other people, who require peculiar management in warding off their caprices. This task gives frequent occupation to the Bijooa and Phedangbo, who are equally the clergy and necromancers of these ignorant people.

The Bijooas are wandering mendicants peculiar to Sikim and the eastern parts of Nipal, where they are cherished and propitiated in a less or greater degree by the whole population. They are wholly illiterate, do not teach any doctrinal scriptures, and are supposed to minister to the evil spirits, and malignant demons; they travel about the country

\* Om Mane Paimi hoom.

dressed in the purple robe of the Thibetan Lamas, with broad-brimmed hats, carrying in their hands the revolving hour glass-like apparatus of the Buddhists, the name of which I forget, but believe it to be symbolical of time, muttering prayers and incantations to its movements. They sing, beg, dance, cast out devils, and prescribe medicaments to the sick ; attend at births, marriages, feasts, and funerals ; and are held in considerable awe, if not in veneration. “The Bijooa’s god is not a beneficent one ; when he curses you, his words are sure to come to pass ; when he blesses, there is a real blessing attending it ; you never should allow him to leave your door dissatisfied, for surely something bad will happen to you, whereas, if he leaves it contented, you infallibly grow fat, and remain contented.” Such is the information seriously given regarding these mountebank priests by the simple people who feed and propitiate them in the belief of their mysterious powers.

The “Phedangbo” is the especial priest of the Limboos, and is entirely disregarded by the Lepchas, who are not indifferent to the powers of the Bijooa. He holds converse with the gods, officiates at sacrifices, deaths, and marriages, and is also unlettered. The calling is generally hereditary. Bijooas and Phedangbos marry, although there is no necessary separation of the priesthood from the laity, by reason of birth. “In a family of six or eight sons, one is generally a priest ; this one fancies he has had—and when he says so he is believed to have—a call to the sacred office.” In fact, he feels within him that he can propitiate the gods, therefore he becomes henceforward a Phedangbo.

### *Marriages.*

“When a Limboo desires to have a wife, he looks about and fixes on a young girl who takes his fancy, then he sends a friend with two or four rupees to her father’s house to gain his consent to the union, and arrange preliminaries of the sum of money to be paid, and the time of performing the ceremony. When these are concluded, he sends the remainder of the purchase money, which altogether rarely exceeds ten or twelve rupees, and proceeds to the ceremony accompanied by a “Phedangbo” and some one carrying a couple of fowls. The young pair being seated side by side, are sworn to connubial chastity by the priest, who now places a hen in the hands of the bride, and gives the cock into those of the bridegroom. A plantain leaf is laid on the ground between the animals ; the priest repeating some gibberish, cuts off the

cock's head first, and next the hens, directing the streams of blood on the leaf, where they intermingle. If the blood spreads into fanciful shapes, or flower-like patches, it is an omen of good luck and happiness to the parties, if into large blotches, it betokens evil. This ceremony being ended, the friends of the parties are feasted, and when it has previously been agreed on, the bride is carried home. The poverty of the bridegroom, however, often renders it necessary for him to remain with his wife's father for sometime, to whom he becomes as a slave, until by his work he has redeemed his bride. A poor man generally gets over all preliminaries, as well as the marriage ceremony, in one day. It costs a richer man a week. The Limboos marry with the Lepchas and also with the Moormis; the latter, however, is objectionable, but is not followed by any other inconvenience.

#### *Births.*

The Phedangbo is called in at births, if parents can afford him a dinner; he examines the infant carefully, and then pronounces its destiny, sacrifices a fowl or kid, and invokes the blessings of the gods on the young stranger. The parents name the infant on the third day after birth.

Children born out of wedlock, and the produce of Limboos and Lepchas, are called "Koosaba." Boys become the property of the father on his paying the mother a small sum of money, when the child is named and enters his father's tribe; girls remain with the mother, and belong to her tribe.

#### *Deaths.*

Just as the vital spark has taken its leave of the mortal tenement, it is usual among Limboos, who can procure a little powder, to fire a gun; the report is supposed to give intimation of the event to the gods, and to speed the soul\* of the deceased to their keeping. They burn the dead, selecting the summits of mountains for the purpose, and afterwards collect and bury the ashes, over which they raise a square tomb of stone, about four feet high, placing an upright stone on its summit.

On the upright stone is engraved a record of the quantity of largess distributed at the funeral of the deceased; this inscription is either in

\* "Hungsa," synonymous with life and breath.

the Dev-Nagri, or Lepcha character, according to the comparative facility of procuring an engraver in either of these characters. It is an act of virtue in the relatives to give largess; but it does not appear to be considered of any efficacy to the soul of the departed. The Limboos do not make offerings, or sacrifices for the dead, nor have they any belief in the transmigration of souls. They mourn the dead by weeping and lamentations at the time, and by avoiding merry makings, and adorning the hair with flowers for a month or two.

### *Houses.*

Their houses are built of stone raised over platforms of the same, from two to four feet from the ground; they rarely consist of more than one apartment, and are roofed with grass thatch. In all respects of neatness and comfort, their dwellings are far surpassed by the roomy and picturesque houses of the Lepchas. Like the latter however, they avoid hill tops for their residences, and either locate themselves in vallies at great elevations, or along the hill sides, at elevations of 2, 3, or 4000 feet above the sea. The Limboo language has no written character, nor has it, so far as I can judge from attending to its pronunciation, any similitude to those of the Lepchas, Bhotiahs, Mechis, and Haioos, and it is altogether free from any connection with the Parbutiah, which is a dialect of Hindi origin. It is more pleasing to the ear than the Lepcha tongue, being labial and palatal, rather than nasal and guttural.

The comparison of the various languages spoken in this neighbourhood one with the other, and all with the Thibetan and Sanscrit, as well as with the numerous dialects of the countries bordering on Assam, and with the language of the Dhangurs, Coles, Goonds, and Bheels, offers a tempting subject to philologists, and will probably reward the labourers, by enabling them to throw some additional light on the small knowledge now possessed of the races who peopled India previous to the advent or rise of the Hindu religion.

The following are the dialects of these respective people to which attention may without much difficulty be directed at Darjeeling—

The Lepcha, Limboo, Bhotiah, Haioo, Moormi, Mech, Dimal, Garrow, Tharoo, Dhunwar, and others which I am unable to particu-



larise from memory, although at one time possessed of written memoranda regarding all the polyglot tribes of the Nipalese Turai and Morung, a tract of country which I traversed in 1839, and which contains a most extraordinary assemblage of outcastes from Hindooism, yet ununited under any form of religion, unless a devotion to a few superstitious rites, propitiatory of evil disposed spirits, be considered to constitute a religious union.

*Limboo Vocabulary.*

above, tángħ	blood, lakshokpa
aged, kapoba	blue, mukloh
air, shámí	board, shingophreu
all, kerre	boat, kombe
arm, hóók	body, yām
arrow, thōōng	bone, kúlúngji
ashes, kāssoo	book, sáplá
ask, V, shelāsste	bow, N, lí
axe, tontí	boy, henja
back, N, ar	bracelet, shiringma
bad, menzejábá	branch, kōōneke
bag, shōōwa	breast, loongma
bamboo, phá	bridge, phoong
bark, V, ho	broad, yomba
bark, N, shinghoorí	brother, amphoo
barrel, towá	younger, nisha
bead, eíche	buffalo, shángwá
bear, N, māgyeu	buy, meuloong
beat, sheray	candle, tiáloo
beautiful, noghá	cannon, potang
bed, netuádry	caste, keloongji
bee, leem	cat, miongma
bell, pongyay	cheek, nedengbá
belly, shápoo	child, oong negwá
bird, mōōyava	city, pang yek
bitter, kí	cloth, tek
black, mákloh	cloud, ká mí
blanket, nāmboo	cold, choongsi

comb, takomah  
 come, tángay  
 copper, támbá  
 cotton, takay  
 cough, humámá  
 country, lájay  
 cow, yepi  
 cubit, chamkoo  
 cut, V, cheptay  
 dance, V, langmá  
 daughter, meuchumá  
 day, koolen  
 deaf, nátákie  
 dear, guáktee  
 deer, keliba  
 die, shray, B,  
 dig (earth,) kamtoyie  
 dog, kochoo  
 draw, ōōkay  
 drink, V, toongay  
 dry, kohedia  
 eagle, negurá  
 ear, neko  
 earth, kámbekmá  
 east, námgam  
 egg, wáteen  
 elbow, noksōōmbá  
 empty, hoblang  
 evening, námtaych  
 eye, mih  
 face, guá  
 far, mánká  
 fat, so  
 father, amba  
 feather, waylup  
 fever, toong-dushu  
 field, yeán

fight, kemá  
 find, komah  
 finger, hookeja  
 fire, may  
 fish, guá  
 flesh, karay  
 flower, phoong  
 fog, kámay  
 fool, kengungba  
 foot, leugyetimba  
 forest, tamphoong  
 fruit, kooshay  
 full, kooden  
 garden, kame  
 ginger, hámbe  
 goat, mendá  
 god, shám  
 gold, shamiang  
 good, note  
 grass,  
 great, yombá  
 gun, tumok  
 hail, phoh  
 hair, tugek  
 hand, hook  
 hard, chimjoomlo  
 hear, kepshoobi  
 heavy, leep  
 heart, ningwá  
 heaven, shanglumdung  
 hell, tangshukpá  
 hen, wáh  
 here, kotna  
 high, tank  
 hill, toksong  
 hog, phak  
 horn, koodang

horse, on, L,	monkey, chobá
hat, nāmsay	mouth, moorá
house, terá	moon, lhábá
hunger, shilák	mother, amó
husband, meet	mouse, shoobá
I, eruga	mouth, lebá, L,
iron, phenjay	mud, legua khám
kill, V, sheray	nail, nung
king, hung	name, kōming
knife, kurdá	near, kōyeo
knee, khorá	neck, shurrá
ladder, preng	needle, sumett
lamp, díó	net, kioong or churi
laugh, yemá	new, kusong
lazy, ke shoobá	night, sendik
leaf, telá	north, thó
lean, chookpá	nose, nebáú
leap, hochoom-lokpa	oil, mingay
leech, lukphet	old, koo drong
left, pheuchanga	onion, mákó
leg, poklám	order, no word
leopard, ke bá	other, egi umbá
lie, imshí	ox, beet
little, chookpá	paddy, yāh
load, gok	paper, no word
loom, chiriketokpa	peacock, myoongjay
long, kembá	pine-apple, por shay
louse, shee	place, la jee
low, yeo	plantain, telā she
maid, menchia	plough, no word
maize, mákee	poison, ning, L,
man, namní	potatoe or yam, kay
many, yeōlik	powder, (no word)
marry,	quick, hurra hurra
mat, lompay	rain, weehi
middle, kooloomio	ratan, shi
milk, bidno	read, neeray

red, he tamba  
 rice, shiáh  
 right, phenchung  
 ripe, doomshay  
 rise, bōghay  
 river, yeomba choa  
 road, lum  
 rope, tuk pā  
 root, shāp  
 roof, him tong  
 round, kooshay  
 salt, yim  
 sand, yeu kā  
 scissors, kuturna  
 seed, yeáli, L,  
 shield, koh  
 shoes, no word  
 shoulder, phok tang  
 shut, sāk te  
 sick, took  
 silver, yāng  
 sin, minobā  
 sister, noosa-noonchema  
 brother, noosa-empercha  
 sit, yoong-e  
 scratch, somā  
 slave, henja  
 female slave beecha  
 sleep, mig yeu  
 small, tanga  
 smith, thembā  
 smoke, me koo  
 snake, wá seh  
 snow, nāh  
 soldier, no word  
 son, koosa  
 south, yeō

speak, báp má  
 stand, ebe  
 star, sohor  
 stone, lōōng  
 straight, don don bá  
 strike, hipar  
 strong, tom toomba  
 sun, nam  
 sweat, so-al  
 sweet, limba  
 tail, sheem  
 thief, kootribá  
 thigh, poklam  
 thin, chookbá  
 thou, kenne  
 thread, kee  
 thumb, koodom  
 thunder, kāmian  
 tiger, keba  
 tobacco, shirkā  
 to-day, eu  
 to-morrow, tāndu  
 tongue, ullee  
 tooth, hā  
 tree, shing  
 true, koochā  
 turban, pake  
 tusk, hākemba  
 umbrella, (no word)  
 uncle, umpunga  
 under, yeo  
 unripe, mudoomsin  
 valley, tompoya  
 village, bang pe  
 vomit, pe shoo  
 walk, lang, kekma  
 war, tokmā



warm, mowah	who, Eng. oh
water, choā	wind, N sāmet yemba
wax, mālīm	woman, menchima
we, annigay	wife, āmett
weak, mun toomba	wood, shing
widow, bidooa	word, bān
widower, rāndā	world, yeolik lājee
weave, lāngtuk	worm, támboo
well, N (no word)	worship, mangjokma
weigh, tāngu	yam, ke
west, nāmtā	year, toong be tik
what is it? hene go	yellow, peyor bu
where, atte lajee	yesterday, anchen
whistle, V, thuriyok	young, táugmen
white, pho dāng be	

*Numerals.*

one, teek	twenty, ní bong
two, netchí	thirty, soombong
three, soomchí	forty, libong
four, leeshí	fifty, nábong
five, nāshí	sixty, tookbong
six, tookshí	seventy, nobong
seven, noshí	eighty, etbong
eight, etchí	ninety, phang bong
nine, phangshí	hundred, thí bong bong
ten, thí bong	

*The Haioos*

inhabit the central and lower ranges of the mountains in eastern Nipal, between the Arun river and the Konki. The Konki river runs under Ilam Gurhy, and is only three days journey west of Darjeeling. They are mingled with the Eaka division of the Limboos, but always live in clearances and villages exclusively their own. Their language is different from that of any other people in this neighbourhood, so is their religion and all their habits. They keep strictly to themselves, do not marry with any other tribes, and rarely associate with other people. By the Goorkhas and all Hindoos, they are treated as outcastes; they cultivate in the vallies of the lower hills, but have their houses

at such elevations above them as insure them exception from malaria. The above is the small amount of information regarding these people which I have gained at this place from the Limboos and Lepchas, who although constantly seeing these people, do not trouble themselves much about them. As yet the Haïōōs have not found their way to Darjeeling, although our proximity to their country, will probably ere long add them to our visitors.

The following notice of these people, is extracted from memoranda made at Cathmandu, where I once only saw a few of the race. Hamilton mentions the Haioos in his account of Nipal. "September 9th 1835." "Yesterday being the great day of the Indra Jattrā festival we" (the Residency party) "paid our annual autumnal visit to the durbar at 8 P. M. The principal streets of the town were well illuminated, and crowds of cleanly dressed people of all callings, castes, and ages thronged the avenues to the palace. Groups of Newari dancers were stationed at short intervals in the crowd, picturesquely dressed, and suitably masked to represent gods, demons, warriors, and comic characters, and every now and then the dancing ceased, and the performance in pantomime of scenes from the Ramayun and other Hindoo legends, was recommenced. After taking leave of the Raja, we repaired with the minister and some other chiefs to Bussunthpoor, the ministerial residence and place of business, to witness a nautch performed by a strange tribe of hill people, recently arrived from the eastward, denominated Haioo. The nautch was indeed a singular one, and novel; about thirty males and as many females were drawn up in line, as closely packed as possible, the first a man, the next a woman, and so on alternately, not standing side by side but back to belly, and all holding on to each other by throwing forward the hands and grasping the arms of the persons in front. The column thus formed, and preceded by half a dozen men beating drums and cymbals, and shouting in a barbarous dialect what was said to be a metrical lament, moved slowly in a circle, nodding and keeping time to the music. In this fashion, and so closely packed that the circle of sixty individuals had the appearance of a machine with a row of heads and feet set in motion, did they revolve and mourn for an hour.

"The dress of the women was romantic enough, and very becoming; a tartan jacket reaching to the waist, and fitting close to the bust, a

short, white, neatly plaited petticoat, reaching to the calf, the hair raised into a tiara on the crown, and surmounted by a plume of peacock feathers, the neck and arms loaded with shell and brass ornaments, and the entire face tattooed in blue, yellow, and red arches, and other fanciful devices. The men were dressed for the occasion in trowsers, chupkuns, and large turbans of white cotton.

The physiognomy of this tribe is rather of the Mongolian cast, the bridge of the nose is not perceptibly raised, the cheek bones are flattened and very high, the forehead narrow; in stature they are short, averaging about five feet four inches. Their language is peculiarly their own, but many of them speak the current Purbuttiah. They bury their dead, and worship Rawun, the Raksha king of Lunka, and him only. The dance and dirge, are lamentations for the death of Rawun. They describe themselves as having come originally from Lunka in great numbers, not being content to remain after the defeat of their king by Ramchunder; that they had at the time of their migration upwards of 300 volumes of sacred writings, connected with their peculiar creed, which were gradually destroyed and lost, until now, when they are without any record of it; that they remained for sometime in the Dukhin, whence they journeyed on to Semroungurh in the days of its glory; and that, lastly, but a long time ago, they reached the hills, their present abode.

#### *The Moormis*

are a very numerous tribe, found in all parts of the Nipal mountains, from the Gunduk river twenty miles to the west of Cathmandu, to the Mechi; whence, in smaller numbers they are to be met with in the Sikim country, as far east as the Teestah. The great bulk of this tribe, however, is to be found between the valley of Nipal and the Dood Koosi. They are altogether a pastoral and agricultural people, rearing flocks of sheep and goats at great elevations near the snows, and cultivating at the greatest elevations capable of producing Indian corn and Murwa, their staple grains. They settle on the mountain tops at elevations of from 4 to 6000 feet, living in cottages built of stone and thatched with grass. They are divided into several families or clans as follows,—

Mooktan, Pakreen, Shengar, Yeunjan, Thokar, Bomjan, Roomba, Gyapaka, Theng, Gheshing, Doomjan, Mepchun, Guurba, Beil.

The Moormis are Buddhists, and follow the Bhotia and Lepcha Lamas, as well as those of their own tribe. It is necessary for the latter, however, to have been educated at Lhassa, or at some other Thibetan College, ere they gain much respect among their own tribe. The Moormi priests are not restricted to celibacy. The language of the Moormis is, I believe, a dialect of the Thibetan, although the Bhotiahs and Moormis cannot converse in it. The only written language known to the Moormis is that of Thibet, in which their Lamas read the sacred scriptures of Buddhism; they bury the dead on the mountain tops, raising tombs of earth and stone over the graves, and occasionally engrave the name of the deceased in the Thibetan characters on slabs of stone laid into the erection. They are decidedly a Mongolian tribe, and certainly the least handsome of all the mountaineers of this part of the Himalaya. They are, however, a very powerful and active people. Their standard of stature is taller than that of the Lepchas and Limboos. They are not so cheerful as the Lepchas, having a good deal of the gravity of the Bhotiahs, but they are good tempered, and altogether free from prejudice to strangers. Indeed this is a marked feature in the character of all the people of these mountains, all jealousy and prejudice in this respect, being confined to the rulers. The Moormis are not admitted into the ranks of the Nipal army, being considered an unmilitary people; as ammunition carriers, klassies, and gun-lascars, however, they are in request. They do not seem averse to take up arms, as a few have enlisted into our service at Darjeeling, but their favourite pursuits are grazing and agriculture. In one respect the Moormis are a very interesting people to those who desire the prosperity of Darjeeling, and to see its waste land cleared and inhabited; their custom of living and cultivating at elevations nearly as great as this place itself, point them out, above all others, as the most useful settlers. The Lepchas do not object to temporary sojourns at elevations equal to Darjeeling, but they never establish themselves permanently at such. The Moormis and Gurungs prefer elevations of 6000 feet to any others, the Limboos and Lepchas, those from 4000 to 2000 feet; while the Haioos choose the lowest spots of the vallies beyond the influence of malaria, and even brave this with impunity, derived from habit. For the malarious Morung, which skirts our mountains towards the plains, the Meches and Dimals are the local people we have to look



to as settlers, and from a distance the Dhangurs and Coles, who are also proof against malaria.

*Moormi Vocabulary.*

house, teem	root, thoongla
cow, mih	leaf, lapte
head, tho-bo	branch, til mi
eye, mih	bamboo, putáp
nose, na	ratan, kreh
mouth, soon	horse, thá
arm, ya	goat, rá
hand, promji	sheep, kew
chest, koo	rice, mlá
belly, pho	flour, prah
thigh, bulli	ghee, murh
foot, bulliphá	salt, chúja
fire, me	yam, semeh
water, kim	oil, keugoo
snow, khug	murwa, sanga
stone, yeong	paddy, soon
mud, sabra	iron, phái
man, mhi	silver, mooi
woman, muring	gold, mir
boy, kola	copper, sungbo
girl, chamey	gun, toomuk
father, ābā	arrow, meah
mother, ami	bow, dulli
brother, kroon	kookri, kojá
sister, aughá	candle, nung sul
soldier, (no word)	book, keoi
smith, (do.)	door, morup
river, shiong	roof, teem, la, to
mountain, kung	plough, no word
valley, kunjung	hoe, tho
bridge, chám	axe, turri
road, kiam	rope, cho
tree, thoong	dog, nági
wood, shing	bitch, nági mama

fowl, nágá	long, ringjim
hog, thuá	short, toomba
flesh, sbá	high, gnoba
cat, tawr	fat, gnujung
tiger, chun	lean, chitpá
elephant, lungboochi	black, mlung
pheasant, poruá	white, tur
rain, num	red, wálá
clouds, kásoo	yellow, oar
sky, moo	green, pingh
God, chungryo	come here, kir kán
Nipal, Yung	go, níu
India, Kegur	year, tiding
Thibet, Poi	moon, la ní
paper, (no word)	sun, dini
letter, higi	stars, kurjeu
large, lujung	lightning, tibling
small, wotibajuja	thunder, moodoorba.

*Numerals.*

one, keek	eleven, chookri
two, nh	twelve, chooni
three, som	thirteen, chooksom
four, pli	fourteen, choopli
five, guá	fifteen, chooqua
six, too	sixteen, choo too
seven, nees	seventeen, choo nus
eight, preh	eighteen, choo puh
nine, koo	nineteen, choor koo
ten, kun	twenty, neesio.
	None beyond this.

*Months.*

January, Tublá	June, Pelba
February, Hindi name used	July, Hindi name used
March, Doogoo	August, Koni neo
April, Mamdong	September, Tubla juja
May, Hindi name used	







October, Hindi name used	Names of days wanting in this
November, Kebabá	language.
December, Hindi name used.	

*Classification of Mountaineers and Turai men in Eastern Nipal and Sikim.*

<i>Denominations.</i>	<i>Remarks.</i>
Brahmins,	Known to all the world.
Khas, Mogurs, Gurungs,	Hindoos; speak dialects of Hindi.
Bhotiahs, Lepchas, Moormis,	Buddhists, with languages of Thibetan origin. Mountaineers.
Limboos, Kerantis, Haioos,	Forms of religion unnamed. Languages supposed not to be referable to the written ones of India or Thibet. Mountaineers.
Meches, Dimals, Garrow,	Not Hindoos.
Tharoos, Dhanwars,	Buddhists, or Muhummudans. Languages as the last. Turai men
Batur, Kebrut, Amath,	
Maraha, Dhanook, &c.	Turai men: speak Hindi! Would be Hindoos, but without the pale.

*To the Secretary of the Asiatic Society of Bengal.*

SIR,—Some gentlemen who have received the 98th number of the Journal of the Asiatic Society of Bengal, have mentioned their regret that a rough map of my route to Hinglaj did not accompany the paper, as it was through a part of the country but little known. I do not hesitate therefore to send you one, that, should you consider it of interest enough, a copy may be appended to the next number.

Yours faithfully,

*Camp near Sukkur, on the Indus,*  
5th September, 1840.

N. W. HART, Captain,  
2nd Gren. Reg. Bombay, N. I.

Note.—Immediately on the receipt of Captain Hart's obliging communication, I put his sketch into the hands of the lithographer, and have now the pleasure of publishing a map, which I only regret should not have accompanied the narrative of his journey to Hinglaj.



*Inscription found near Bhabra, three marches from Jeypore on the road to Delhi. By CAPT. BURT.*

MY DEAR SIR,

I have the pleasure to send you for the Journal, copy facsimile of an inscription in the No. 1, or oldest Lat,h character, which I have lately been fortunate enough to discover upon a hill lying adjacent to a place called Byrath, which is situated at a distance of six kos from Bhabra, to the left, or east, of my route from Delhi to Jeypore, Bhabra being three marches from this place.

I found it on a hard, grey granite block, irregularly shaped, and measuring about two feet in two of its dimensions, and a foot and a half in the third ; the weight of it is therefore inconsiderable, so that if the Society wish to possess so beautiful a specimen as it exhibits of the durability of an engraving executed upon that material, you have only to make their wishes known to Major Thoresby, who has kindly stated that he will, in that case, endeavour to obtain the consent of the people of the neighbourhood to its removal, when it could be transported to the Jumna on a cart, (a few men sufficing for its trip down the hill) and from thence be conveyed by an ordnance return boat to Calcutta at a very trifling cost.

Jeypur, 18th August, 1840.

I am, my dear Sir, yours truly,

To H. TORRENS, Esq.

J. S. BURT.

NOTE.—This inscription, which is in the oldest of the Lat,h characters, has been sent to me for publication by Capt. Burt, in copy facsimile. The discovery of such an exceedingly interesting historical relic, has added another to the list of most valuable contributions for which the thanks of our Society are due to that intelligent and indefatigable Officer. It is, as will be seen, another of *Asoka's* edicts.

Capt. Kittoe having most kindly offered to superintend the publication of the inscription, I will not rob him of the fruit of his research, by anticipating, in any observations of my own, the results which a careful examination of the writing led him, I think most justly, to deduce from it, both as regards the reading of the characters and interpretation of the words. A reading kindly supplied by Capt. Burt was of much value in determining the exact meaning of several of the characters, but as the one now submitted may be considered, with the united aid of Pundits Kamalakanta, and Sarodha Prushad, an emendation, it alone has been published.

The whole credit of the interpretation, and of the editing of this interesting inscription rests with Capt. Kittoe; and I will only state, I have addressed Capt. Burt, in hopes of obtaining from him traces of further Buddhist relics, as it would be likely that such should exist in the immediate neighbourhood of the site in which an inscription so remarkable was discovered.



*Note.—By Captain M. Kittoe.*

The above mentioned inscription is evidently one of Asoka's edicts, differing somewhat in style and language from those of the pillars and rocks, the character is however the same as No. 1.

The subject is the Buddhist commandment, forbidding the sacrifice of four footed animals, and appears to have been addressed to offenders either of the Buddhist faith, or perhaps to those who had not yet become converts, but still followed the laws of the Munis, i. e., the Vedas, which books are here condemned as "mean and false in their doctrine, and not to be obeyed;" in this point the inscription is curiously interesting; it is the only one yet discovered in which the Vedas are condemned by name.

With the aid of the learned Pundit Kamala Kanta, I have been enabled to offer what I trust will be found a tolerably correct version. I first transcribed the whole in Deva Nagri, supplying by guess the letters represented as doubtful or obliterated, when after reading it several times to the Pundit, he had no difficulty in rendering the whole in pure Sanscrit, from which language that of the inscription differs but very slightly.

From the style of the first sentence, I should be inclined to think that the chapter, (though in itself complete) may have been connected with others; for upon comparing it with the Lat,h and rock tablets, it will be found that all the leading chapters in those commence with the titles of Asoka in full; thus, "Devanum Piya Piya-Dasa Raja Evam aha," "the beloved of the gods, the much beloved Raja—thus spake," and it is only in the intermediate ones that "Piyadasi Raja" alone occurs; it would be therefore worthy of inquiry, whether any other fragments are to be found, also whether from appearances the spot indicates the former existence of any Stuppa or Deogope, or otherwise, that it may be presumed that the inscribed

block may have been brought from some such place in the vicinity, probably some hill, where caves and other Buddhist relics still exist.

The Pundit pointed out several orthographical errors, which have been corrected ; in the lithograph accompanying, I have distinguished such (as well as doubtful letters supplied) by their being dotted in outline only.—M. K.

*Sanscrit Version by Kumala Kanta.*

प्रियदर्शो राजा मगधे संघं अभिवादयमानं आहः ॥ अपवाधितं  
पशु व्याघातितं विदितमेव भातिः ॥ अवतकेहा मावुद्धस्य स्वधर्म्यसंघे  
इति गौरवं चोपसद्येव एके च घ्नन्ति भगवता बुद्धेन भाषिते सर्वं शेषे  
भासिते वा इच्छुका भान्तिः ॥ प्रमया दिशा एवं स्वधर्मं चिरं सन्ती  
ति केहोसन्तीति आलभे महिलोकान् तावतः इमानि भान्ति इमा  
नि पालयन्ति विनयशमके अर्ह्या निवसन्ति अनागतभया मुनिगाथा  
मौनेयसुते उपपत्तिः स पशौ एवं लघौ वेदे मृषावाचः अधितिष्ठ भग  
वता बुद्धेन भासिते । एतानि भान्ति धर्मपरि यानि यानि इच्छा  
मि कतिवज्जका भिक्षुका भिक्षुक्यश्च अभीक्षणं श्रुत्वा वा उपधारयत  
यूयं एवमेव उपासकाश्च उपासिकाश्च एतानि भान्ति इमं लेखापया  
मि अभिमतं मेच ॥ ॥

*The Original Pālī in Roman Characters.*

Piyadasa lāja Magadhé sunghum abhi vadè manum áha: apa  
badhitunch pusúva haltunch veditévè bhanté, àvutkéha ma Bùdhsí  
Dhumsì sungh síti gulvéenchuna pusdèch aikachi bhanté ; Bhugvaté  
Búdhén bhasité suvéésú bhasitéva aichúkhabhanté pumiyaya disiya  
héyum, sudhummé chílustíti, kéhostíti, alhami hkam tavuté ímani  
bhanté ; ímpali yáyami vinyas makusé aliya vasani anàguté bhayani,  
mùnigatha monagasooté ùpati supusina aiva, lugùlo vadé músava  
chum, adhiogichya bhugvata búdhén bhasité, aitanì bhanté ; Dhum  
pali yayani, íchhami: kitibahúka bhikhpayécha bhikhanniyécha  
abhíkhnum súnýúcha úp dhaléya yooa héyum, heva ùpaskacha ùpa  
siokacha aitanì bhanté: ímum likhapéyami; abhi mitimé va ùntíti.



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*Translation from the Sanscrit Version.*

Piadasa (the beloved) Raja, unto the multitude assembled in Magadha<sup>1</sup> saluting him, speaks (thus)<sup>2</sup>—

That the sacrifice of animals<sup>3</sup> is forbidden, is well known unto ye; spare them: for those who are of the Buddhist faith such (sacrifice) is not meet, thus (spake he). The offering of úpussad<sup>4</sup> is best of all. Some there are who kill—that which the Supreme Budha spake at the conclusion (of his commandments) was well spoken; those who act thus, follow in the right path, they will remain healthy in their faith for a length of time to come.

There are some who make blood offerings, (but) of these there are few, this is right and proper, (the Buddhist creed) these (of the faith) I protect, (likewise) those who keep company with the righteous and uncovetous.

The Scriptures of the Munis (the Vedas) are observed by their disciples; their future state is to be dreaded.

The texts of the Vedas in which the sacrifice (of animals) is enjoined, are mean and false (obey them not); follow that which the lord Budha hath commanded; do so (practice) for the glorification of the faith (dhurma). This I desire, that all of ye priests and priestesses<sup>5</sup>; religious men and religious women<sup>6</sup>, yea every one of ye, ever hearing this, bear it in your hearts! This my pleasure, I have caused it to be written, yea I have devised it.

1. It is evident that the assembly here mentioned is the great convocation which is recorded to have taken place at Pataliputra (Palibothra) modern Patna, the then capital of Magadha and of the Indian Empire, in the 17th year of the reign of Piadasa Dhurmatoka, B. C. 309, for the suppression of schisms of the priesthood (see Turnour's Examination of the Pali Budhistical Annals, vol. vi. part II, Journal Asiatic Society, p. 505).

2. The word ढु' evam, "thus," does not occur as in the Lat'h and rock inscriptions, but it is nevertheless understood; it is supplied by the word इति at the end of the sentence following.

3. The word ण (Sanskrit पशु) literally means any animals which chew the cud, and have hair on their tails, such as goats, sheep, deer, &c.

4. A mixture of ghee, milk, teel seed, and rice.

5. भिक्षका भिक्षुकाश्च

6. उपासकाश्च उपासिकाश्च

*On the Fossil Remains of Camelidæ of the Sewaliks. By CAPT. CAUTLEY,  
Artillery.*

"But the most interesting discovery was that of a Camel, of which the skull and jaw were found. It is to be observed that no decisive proof of any of the Camelidæ, either camel, dromedary, or lama, had ever been hitherto found among fossil bones, although Cuvier had proved certain teeth brought from Siberia to be undoubtedly of this family, if they were really fossil, which he doubted. This discovery in India was therefore extremely interesting, as, supplying a wanting genus. But for this very reason, it became the more necessary to authenticate the position of this supposed camel's remains the more clearly, especially as there were abundance of existing camels in the country, which there could not be in Siberia. The Indian account is somewhat deficient in this respect, leaving us in doubt whether the bones, admitted to bear a very close resemblance to the living species, were found in a stratum, or loose and detached." *Dissertations on subjects of science connected with Natural Theology, by Henry Lord Brougham, F. R. S. &c. vol. ii. pp. 213, 214, 1839.*

It is only within the last few months, that the most interesting volumes from which the above is an extract have reached this remote part of India; long as the extract is, however, its introduction may be permitted, as affording us the opportunity of removing all doubts of the existence of the camel among the Fossil Fauna of the Sewaliks, by a few supplementary remarks, which a reperusal of the original paper published in the Transactions of the Asiatic Society of Bengal, with reference to the paragraph above quoted, renders necessary.

To those who have interested themselves in the discovery of the fossil remains, which has been made in the Sewaliks, it need hardly be necessary to allude to the two very distinct states in which the mineralization has taken place: that in which the fossil is impregnated more or less with iron in the form of a hydrate, and that where the calcareous elements of the bone are nearly or entirely unaltered, and the medullary hollows filled with matrix; the former universally existing in those remains extracted from the sandstone rock, the latter from the subordinate beds or substrata, either consisting of clay, or an admixture of clay, sand, and shingle. The difference in external appearance is remarkable; the sandstone fossil being to a common observer an organic substance converted into stone, whereas that which is found in the clay strata, not only conveys an idea of a lesser antiquity, but looks like a substance merely in a progressive state of petrification.

As the beds of clay, &c., are *inferior* in position to the extensive sandstone strata, the palm of antiquity rests with the fossils of the clay. These



very imperfect and half-fossilized looking remains, being evidently of older date than those of the sandstone.

With very few exceptions, the only remains that have been discovered, scattered on the faces of the mountains, or in the ravines and water-courses which drain them, are those from the sandstone strata; those from the lower beds appear to be of a quality too little indurated to withstand the effects of weather and exposure. The greater proportion of the latter, amongst which are some of our most interesting genera, viz., *Simia*, *Anoplothæria*, *Camelidæ*, &c. were *exhumed*, removed out of the parent strata in which they were originally embedded. The remains of Ruminants and Rhinoceroses brought to light in this way, were singularly striking; numerous crania of both families, in many cases not having shed their milk teeth, being found closely and compactly imbedded together, the stratum of rock being a perfect Golgotha, not of the skeletons of old and worn out animals, but of those who were cut off when young, or in the prime of their existence.

In the osteology of the camel there are certain distinctive marks, which at once separate it from the true Ruminantia, laying aside the peculiarities of the cervical vertebræ, in the absence of perforations for the vertebral arteries in their transverse processes, which, with the atlas excepted, is universal in the family, and separates it not only from the Ruminants, but from all other existing Mammalia. There are two very simple points of difference, which can never be mistaken by the most careless observer, the 1st, being the want of ankylosis in the lower extremities of the metatarsal and metacarpal bones,—that of the camel exhibits itself in a cleft or separation of the two bones, to a distance of two or three inches from the articulating surface, whilst the same bones of the Ruminants are perfectly undivided: and, secondly, in the marked distinction existing in the carpal bones of the camel, in the separation of the scaphoid and cuboid, these two bones being joined together in the true Ruminantia.

Of these metatarsal and metacarpal bones, we have forwarded specimens both to the British Museum and to the Geological Society of London, extracted from the lower beds of the Sewalik strata, as well as from the sandstone rock; numerous other specimens of the same family have also been sent to England the more perfect remains of crania being still in our possession, although ultimately intended for the British Museum.

The most valuable remains of *Camelidæ*, which have as yet been discovered in those hills, and which were figured in the Transactions of the Bengal Asiatic Society, were *dug out in my presence*. The stratum in which they were found consisted of a sandy clay, inclined at an angle to the horizon of about 20 degrees, the position about half a mile north-east of the

village of Moginund, which lies at the foot of the range, and the elevation about 4 or 500 feet above that village. These fossils were removed by a working party over whom I was standing, and taken to my camp immediately afterwards; there can be no demurrer on their being fossil remains, for even had they not been exhumed before me, their state of fossilization is a proof of their not having belonged to the existing family; and the position in which I found them was such, that laying aside their being a part of an inclined stratum of rock, no camel of the present day, at least, could have reached such an awkward locality, the excavation having taken place at the head of a deep ravine, terminating in a slip, in a wild precipitous region, far away from the habitation of man, and far removed from even the grazing ground of village cattle.

In the paper above referred to, certain specific differences are noted between the fossil and existing camel, which *a fortiori* establish the discovery of the animal in the former state; as these appear to have been overlooked by Lord Brougham, I will, in referring your readers to the memoir in question, note, that the most remarkable points of dissimilitude were in that portion of the cranium connected with the lower jaw, the breadth between the articulating or glenoid surfaces for the condyles of the latter, being much greater than that in the animal now existing---a peculiarity not confined to one solitary specimen, but common to others, amongst which was a very perfect cranium of a second species, for which we proposed the name of *C. antiquus*, procured from the sandstone strata. With the marked difference above alluded to, it was natural to expect some modification in form to the condyles and rami of the lower jaw; in this we were not disappointed; the obliquity of the ascending branches similar to that of the ox, their form, and the excess of transverse diameter of the condyle, were points of great difference between the fossil and living animal; and in total correspondence with the peculiarities of the cranium; it will be observed, that the difference of structure in the skull is by no means of trifling importance, and as far as the subject of this paper is concerned, is evidence that the bones found by us could never have been the remains of the animals now existing in India.\*

That the camel lived at the same time with the Sivatherium, Anoptothœrium Simia, Hippopotamus, Rhinoceros, and with the very prototype of the Crocodiles and Guriæ now abounding in the great rivers and estuaries of Modern India, there can be no doubt of, as far as the researches on the Sewalik hills have exhibited proofs.

\* At the lower extremity of the metatarsals and metacarpals the cleft appears to be somewhat less in the fossil than in the existing camel; in the latter the separation of the points of articulation is somewhat greater, a remark drawn from an inspection of a great number of fossil remains of this part of the animal.

As a fossil discovery, the camel is of great interest; its position with regard to the Pachydermata and Ruminants, is a link of a now broken chain. The Sivatherium was one, and Mr. Owen's Macrauchenia was another, to explain the mystery, and add two links to a broken series. That future discovery will tend still further to prove the wisdom of design as an inference, is borne out, by every succeeding step in Palæontological Research.

Whether the camel has existed in an originally wild state in any period within the historical era, is a question that has been argued at considerable length. The animal in a state of domestication is spoken of during the early period of the Scriptural writings, and by subsequent authors at all periods of history; it is mentioned by Strabo and Diodorus Siculus, as having been found in a wild state in Arabia about the commencement of the Christian era.

Pallas who argues on the evidence of the Tartars, that the wild camel is found in Central Asia, is met by Cuvier in the well known fact, of the Culmuks being in the habit of giving liberty to all sorts of animals on religious principles: the natives of Hindostan, who act in the same way, and are guided by similar motives, have in their affection for the cow and ox, given rise to a race of wild cattle perfectly distinct from those of the forest. In the districts of Akbarpoor and Dostpoor, in the province of Oude, large herds of black oxen are, or were, to be found in the wild and uncultivated tracts; a fact to which I can bear testimony from my own personal observation, having in 1821 come in contact with a very large herd of these beasts, of which we were only fortunate enough to kill one, their excessive shyness and wildness preventing us from a near approach at any second opportunity. The wild horses of Southern America, are another proof of the tendency of animals to congregate in herds, and assume the character of originally wild animals, although properly the offspring of domesticated cattle set at liberty; the proof, however, after all, is merely in the possibility of domesticated animals being able to return again to a state of nature, and assume the functions of their primitive designation.

The object of this paper is merely to establish the fact of the camel having been found in a fossil state in the Sewalik hills, the identification being more complete perhaps than that of any other of the numerous genera and species which these hills have made us acquainted with. Judging from the number of the remains of this family in our collections, the camel could not have existed in great abundance, and their proportion to the true Ruminants, must have been comparatively small.

*Northern Doab,*

*Sept. 8th, 1840.*

NOTE.—Professor Wilson's work, compiled from the papers of Messrs. Morecroft and Trebeck is not procurable in Calcutta, or I should cite, on better authority than mere recollection, Mr. Trebeck's mention of the wild camel as now existing. I regret exceedingly I did not take a note of the passage which occurs in Mr. Trebeck's journal of a tour in Sadakh, and which mentions the confines of the great Tartaric plain as the alleged tract in which the camel is still found in a state of nature. The question is one on which even Gibbon's immense reading (Miscell. Works. vol. i.) throws no light beyond the caution of the authority of Diodorus Siculus, as noted by Capt. Cautley (Lib. iii. Capt. 44.) The only copy of Professor Wilson's work that I have seen or heard of in India, was in the possession of Sir Alex. Burnes, who while at Simla sent it to me.



### *Proceedings of the Asiatic Society.*

(Wednesday Evening, 2nd September, 1840.)

Dr. John GRANT, Senior Member, in the chair.

Major RAWLINSON, Political Agent at Candahar, proposed at the last Meeting, was elected a Member of the Society.

The Secretary shewed to the Meeting an Astrolabe which had been prepared at Benares for Mons. Théroulde.

The following gentlemen were then proposed as Members,

M. P. EDGEWORTH, Esq.

Capt. W. LOVEDAY, ditto.

Capt. T. HUTTON, 37th Regt. N. I.

Dr. J. D. D. HEBERLIN.

Captain KITTOE presented to the Society the egg of an Alligator, and the egg of the Caprimulgus (rarely found), with some specimens of precious serpentine found near Sumbhulpore.

Several papers were submitted to the Society, which either have appeared, or are in course of preparation for the Journal; two Reports by the late Dr. HELFER, on the Mergui Archipelago, were among these.

Specimens of the Ground Fish of the eastern part of Bengal were presented by — White, Esq. of Kishnaghur, they were dug up from a depth of twelve feet below the surface of the earth in Nuddeea. For notice of this fish, vide Asiatic Society's Journal vol. viii. p. 551.

A model of a Mouster communicated by Colonel CAULFIELD, Resident at Lucknow, was made over to the Medical College.

A letter was read from Professor WILSON, stating that arrangements have been made for preparation of the bust of our late Secretary Mr. James PRINSEP; thanks of the Society were voted to Professor WILSON, for having thus anticipated the wishes of the Society.



A letter from Professor LASSEN, of Bonn, was read, acknowledging the receipt of several numbers of the Journal, and offering to dispose of any Sanscrit works the Society might think proper to send to Bonn for sale;—transferred to the Committee of Papers.

Specimens of Fossil Alcyonites from Girhur, a village about 40 miles from Nagpore, were submitted by Dr. SPILSBURY of Jubbulpore, with extract from a Madras paper noting the experiment performed by PARKINSON on similar fossils, viz. immersion in diluted muriatic acid, which having removed about a quarter of an inch of the substance of the fossil, enabled the observer to perceive with a lens of moderate power, several cruciform spines, formed, as it were, by two fusiform bodies crossing each other at right angles; he supposes from their having withstood the action of the muriatic acid, that these bodies, which were originally the spines of the animal, are now formed of hydrophanous chalcedony, and imbedded in a matrix of carbonate of lime, which has pervaded or supplied the place of the soft spongy parts. "I placed one of these alcyonites," says Dr. SPILSBURY, "in diluted muriatic acid, which produced exactly the effect described in the paper above quoted, and with the magnifying glass, the silicious radiæ from a centre became very apparent."

A communication was read from A. GRANT, Esq. Magistrate of Delhi, announcing his having dispatched to the Society a case of forged seals discovered among the ruins near the town, by a party of prisoners while at work there. They purported to be the seals of most of the persons of note who held authority during the decline of the Mogul Empire, and must have been used in the fabrication of false sunnuds, deeds, and warrants. This curious collection has since been received and lodged in the Museum.

A lithograph, prepared by the celebrated RITTER, shewing the altitude of the snow line throughout Asia, was presented to the Society by Dr. JAMIESON, of Umballah, with a promise of communications on the result of recent observations by him upon the formation of the Himalyas.

The Officiating Secretary informed the Society that the letter press of Ritter's Sections was in progress of translation, and that the whole should appear in the Journal.

A communication from the Rev. Professor STREET, of Bishop's College, with extracts from a manuscript in the Library of the College by FRA GIUSEPPE DA ROVATO, was read to the Society. The manuscript, dating from 1755, contained with various miscellaneous notices, on Hindoo Mythology and Literature, a notice of some of the antiquities which had struck the Rev. gentleman; among others, the following notice of the well known columns in Tirhoot, by which it would appear that both the columns had then, when FRA GIUSEPPE examined them, the figure of a lion on their capital.

"In regnis ergo Bettiae duas ego vidi columnas, in duas provincias diferentes, quæ quidem æquales sunt, ex integro et solo lapide, habentes altitudinis viginti septem cubitos supra terram, et septem in circumferentia, cum supraposito proportionato Leone. In utraque columna ex eodem caractere quasi eadem videntur esse verba. Quas litteras ego retraxi, et misi ad diversa loca, sed nemo potuit neque intelligere neque legere; non sunt litteræ Indianæ, neque ultramontanæ, sunt ex aliquo Græco quia multæ litteræ sunt de Græco Alphabeto, aliquæ vero non. In fine vero descriptionis legitur in Arabico Idiomate \* \* \* \* primus minister magui Alexandri erexit:" nomen vero non benè legitur."

The writer of the manuscript was a member of the Roman Catholic Mission in Nipal and Thibet from 1769 to 1787, about which time the monastery was pillaged

and the Mission ejected by the Goorkahs, then extending their conquests in every direction. The greater part of the Library, attached to the Mission was, the Officiating Secretary observes, brought off to Katmandhoo, and preserved there with great care. Mr. HODGSON, he believed, and Mr. ROSS BELL, while Assistant Resident there, had succeeded in obtaining many of the books so preserved.

Captain BURR's Letter, with facsimile of a new Asoka edict, was submitted to the Society. This interesting relic is published in the present number (102) of the Journal.

A Skeleton of a Cobra Capella, beautifully prepared by M. BOUCHEZ, was on the table for the inspection of the Meeting.

For all the above contributions and presentations, the thanks of the Society were accorded, and the meeting broke up considerably after 10 o'clock, P. M.





For use in Library only



